Economic Challenges of Lagging Regions IV:

Case Studies

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Abstract

This report presents the findings of three case studies of lagging regions in the EU to deepen the findings of wiiw Research Reports 421 to 423. The three (NUTS 2) case study regions are the Italian Campania, the Portuguese Norte and the Romanian Nord-Est region. While each of these regions faces specific challenges due to their economic, social and geographic characteristics, they are at the same time to some extent representative of other EU regions that share similar characteristics and/or challenges.

Each case study covers the economic development in the respective region, highlighting the main strengths and weaknesses in the region's performance. Furthermore, each case study identifies the major, region-specific, causes of the observed developments. By focusing on those causes, each analysis develops a region-specific storyline on the success and failures in the regions' economic development. Finally, each case study derives conclusions based on the above analysis. These conclusions should be indicative of potential development opportunities for each region and the necessary policy measures to overcome existing challenges in order to exploit these opportunities.

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1. Project overview

This report is the fourth part of a bigger study on the 'Economic challenges of lagging regions' commissioned by the European Commission's Directorate-General for Regional and Urban Policy. The study was a joint undertaking of three institutions, i.e. Applica sprl., Cambridge Econometrics and the Vienna Institute for International Economic Studies (wiiw).

The focus of the study is the economic challenges of lagging regions in the EU-28. In this respect, regions – in general – are defined according to the NUTS 2 level of regions[1]. As far as lagging regions are concerned, there are two specific types:

› Low growth regions, i.e. those NUTS 2 regions that did not converge to the EU average GDP per head at PPS between the years 2000 and 2013. This group covers almost all the less developed and transition regions in Greece, Italy, Spain and Portugal.

› Low income regions, i.e. those NUTS 2 regions with a GDP per head in PPS below 50% of the EU average in 2013. This group covers several less developed regions of Bulgaria, Hungary, Poland and Romania.[2]

The main challenge regarding the low growth regions is to find policies and strategies to overcome the low growth path they have been locked in for more than a decade. The main challenge of the low income regions is the long-term sustainability of the respectable growth path they have been following in the past and the need to prevent them from entering the development trajectory of the low growth regions. Overall therefore, the major challenge of the lagging regions is to increase and/or stabilise their economic performance in order to enable them to re-enter and stay on a convergence path to the more prosperous regions in the EU.

At the same time, the economic performance of the regions is, from the study's point of view, dependent on three factors, namely:

a)   the fiscal and macroeconomic conditions under which the regions and the respective countries operate;
b)   the structural imbalances they are subject to;
c)   the amount and structure of investment going to the regions to increase their productive capacity.

It is the aim of the study to analyse these three points and their relation to the economic performance of the lagging regions. The results and conclusions of the study are intended to assist the EU Commission in developing strategies to overcome the economic problems and challenges in the lagging regions of the EU.

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[1]   Defined according to the 2013 NUTS classification.

[2]   According to this definition there are 46 NUTS 2 lagging regions in the EU (see Annex II in *wiiw Research Report* No. 421).

For this, the study is structured in four Parts:

(I)   An analysis of the fiscal and macroeconomic environment for each of the eight Member States containing lagging regions

(II)   An analysis of the main structural reforms carried out in the eight Member States

(III) An analysis of the main investment trends in the eight countries and the lagging regions

(IV)   Three case studies to provide an in-depth analysis of lagging regions, aimed at identifying their development opportunities and comparative advantages

The aim of Parts I-III is to work out the links between the macroeconomic environment, structural reforms and investment trends on the economic performance of especially the lagging regions, while Part IV, accounting for the fact that there may be no one-size-fits-all solution for the lagging regions, provides a deeper analysis of potential strategies to foster economic development for a selected number of individual regions.

In some more detail, the four Parts centre on the following issues:

› **Part I** analyses the fiscal and macroeconomic environment in the lagging regions and the relevant Member States, as a sound and sustainable macroeconomic framework is a necessary, but by itself not a sufficient precondition for investment and growth in the regions. The first task therefore

  1)   presents a range of indicators which represent the fiscal and macroeconomic environment, drawing on the most recent economic governance reports, and covering sufficiently long time periods to capture current trends;

  2)   discusses the relationship between these indicators and the narrative that emerges with respect to the current status and development path of the macroeconomic environment;

  3)   further analyses investment activity, and demonstrates how the macroeconomic situation influences what investment takes place, where it occurs (across the regions) and how this relates to the development of regional export capacity and competitiveness;

  4)   summarises the principal macroeconomic policy challenges that are affecting the lagging regions and what this implies for the national and regional government.

› **Part II** focuses on structural reforms and governance issues in the lagging regions and the respective Member States. The analysis is broken down to address six questions:

  1)   What have been the main structural reforms carried out over the recent past which are relevant for the ESI Funds?

  2)   What has been their effect on the countries concerned but most especially on the lagging regions within them?

3) Which remaining structural reforms need to be implemented which are relevant for the performance of lagging regions in the eight countries?

4) Which governance issues affect the performance of the programmes cofinanced by the ESI Funds?

5) How does the implementation of structural reforms affect the investment decisions of enterprises located both within these Member States and regions and outside?

6) How are the investment decisions affected by the quality of governance?

› **Part III** analyses recent investment trends in the lagging regions, regional development strategies and future investment requirements. The analysis is broken down into three parts:

1) A detailed analysis of regional investment trends, focusing on investment as recorded by the National Accounts, ERDF and Cohesion Fund investment for the periods 2000-2006 and 2007-2013 and foreign direct investment.

2) An assessment of the effects of these investments on regional GDP, employment and productivity growth in the lagging regions, as well as an analysis of their opportunity costs.

3) An analysis of investment needs and investment support policies in lagging regions.

› **Part IV** includes three case studies on lagging regions, namely a) the Romanian Nord-Est region (RO21), representing a predominantly rural, low income region; b) the Portuguese Norte region (PT11), representing a low growth region specialised in manufacturing; and c) the Italian Campania (ITF3), representing a low growth urban region specialised in services activities. Each case study analyses the region's comparative advantages and development opportunities, the constraints on exploiting these opportunities as well as the potential consequences that may arise if these development opportunities are realised.

Overall therefore, the study explores determinants of and challenges to regional economic performance from three different angles (represented by Parts I-III). Individually, each of these angles not only affects in one way or another, the level and sustainability of growth in the regions. Also, each angle has effects on the distribution of growth across regions, considering that changes in the macroeconomic environment or national structural reforms may entail asymmetric effects on the regions, depending on their characteristics. At the same time there are also transmission channels between these angles, i.e. the macroeconomic framework, structural issues and investment trends, so that changes in one of them has repercussion on the others, which in sum have further repercussions on the regions' economic performance (e.g. changes in the macroeconomic conditions may necessitate the introduction of structural reforms and/or change the investment behaviour in the regions). Finally, there are also repercussions from the regional performance itself on the countries' macroeconomic development, the need and ability to conduct structural reforms and also the investment trends in the regions (e.g. through agglomeration effects).

From this, the structure of the study, the links between the individual tasks analysed in Parts I-IV and regional economic performance as well as the transmission channels between the tasks are illustrated in Figure 1.1.

Figure 1.1 / Structure of the study, linkages and transmission mechanisms between tasks
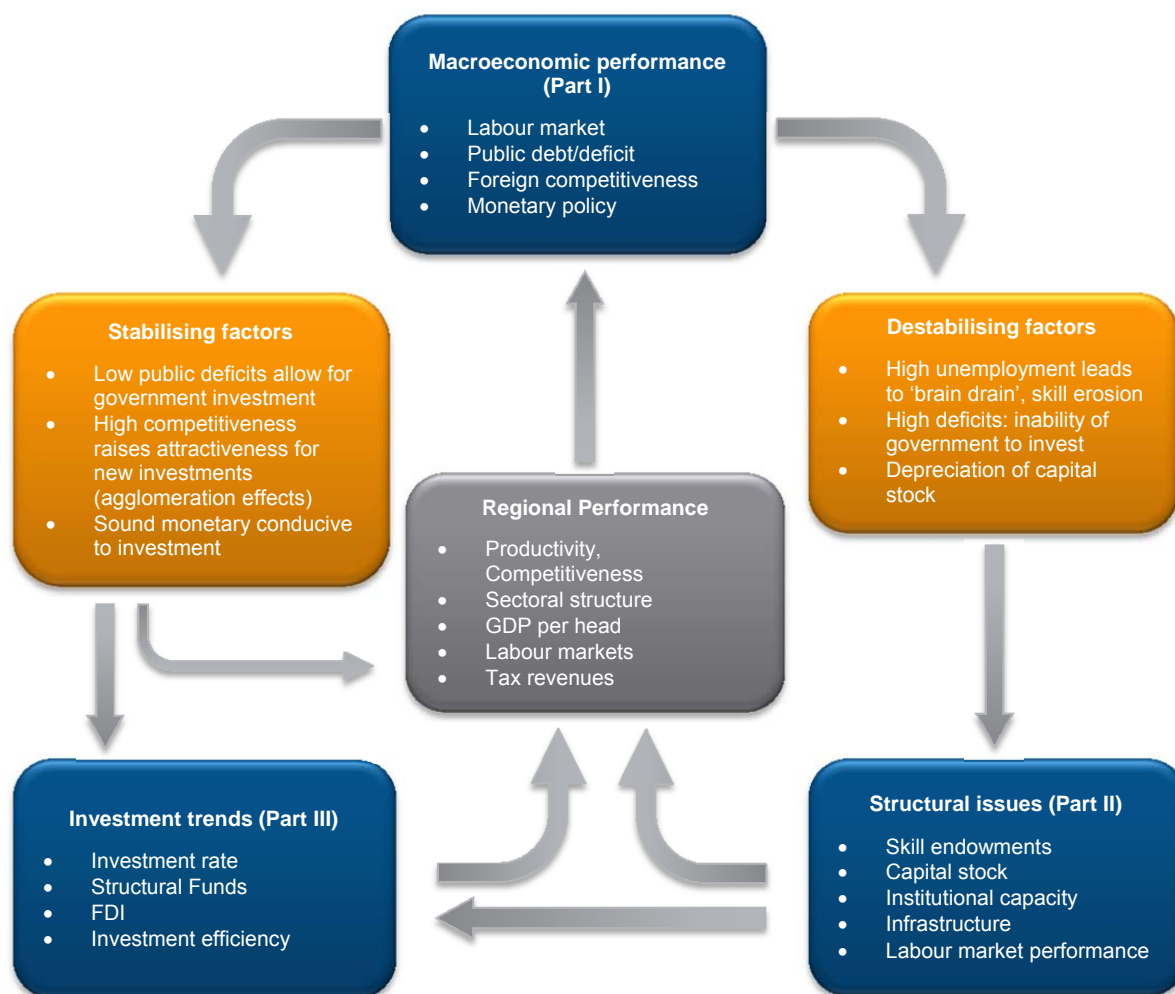
This structure shows the relationship between the macroeconomic environment, the more fundamental structural issues and the investment trends in the regions that are believed to be at the root of their potential performance. It shows how the macroeconomic environment through stabilising and destabilising transmission channels directly and/or indirectly affects both, structural issues and investment trends. Thus, the structure suggests that the macroeconomic environment also has both, a direct and indirect impact on regional performance. The direct impact emanates from the stabilising factors, as e.g. a sound monetary policy with low and stable inflation, favourable nominal and real exchange rates is directly conducive to the regions' foreign competitiveness, thus generating spillovers on the regions' labour markets, tax revenues, income growth and even the economic structure (e.g. through easier financing of R&D or start-ups). The indirect effects of the macroeconomic environment on

regional performance are transmitted through its impacts on structural issues and investment, both of which affect the regions' performance on their own.

The impacts of the macroeconomic environment or, in this case, rather the macroeconomic imbalances on structural issues are transmitted through a number of destabilising factors, as long-term economic underperformance can exacerbate the fundamental structural problems of a country and its regions. Thus, running high public deficits and debt levels lower the government's ability to invest e.g. in infrastructure, education, R&D, leading to a decline of the capital stock, a deterioration of public infrastructure, an erosion of the skill and science base etc. Equally, high public deficits make the implementation of necessary structural reforms much more difficult, and the required cuts in public spending and employment might not necessarily be conducive to the institutional capacity or the quality of governance (e.g. through an increase in corruption, adverse selection in public employment etc.).

As far as the impacts of the macroeconomic environment on investment trends are concerned, the structure indicates that both, stabilising and destabilising factors may affect the size and structure of investment. A sound macroeconomic performance stabilises expectations, providing a secure environment for investment, while low or sustainable public (and private) debt levels facilitate the financing of public (and private) investment via banks or the capital market. Interest rates may be conducive to investment if low (though this is only a necessary, not sufficient condition), yet if misaligned may distort the relative prices of capital and lead to investment bubbles[3].

Long-term fundamental structural issues, which include social, institutional, physical, regulatory and economic problems, directly impact upon the regions and their ability to compete and attract external investment. Major direct impacts on the regions' performance include a) a lack of competitiveness within sectors, b) a potential over-reliance on low wage and low productivity sectors, c) low income growth and levels, d) unfavourable labour market situations and conditions or e) low tax revenues and high expenditure requirements faced by the local government, with repercussions on the central government budget.

Simultaneously structural issues in one way or another also affect the (foreign or domestic) investment going to the regions as low skill endowments, a low institutional capacity and outdated infrastructure are likely to deter private investment from the regions and may lead to an inefficient use of public and Structural Funds investments. In this way, structural issues indirectly affect regional performance, too, as investment is a major determinant of regional growth and development.

Finally, the regions' performance itself has repercussions on the macroeconomic environment (as the country is the sum of its regions), and reveals itself through the designated macroeconomic indicators referring to the labour market, public finances, foreign competitiveness or monetary policy.

This report is Part IV of the study 'Economic Challenges of Lagging Regions' and presents three in-depth case studies of lagging regions, i.e. the Italian Campania region, the Portuguese Norte region and the Romanian Nord-Est region.

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[3]   In the structure this is considered as rather exceptional cases, therefore no link between 'destabilising factors' and 'investment trends' is shown.

2. Purpose

The purpose of the case studies is to deepen the findings of the previous Parts[4] of the study by analysing in more detail the main economic challenges of three specific (NUTS 2) regions, i.e. the Italian Campania (ITF3), the Portuguese Norte (PT11) and the Romanian Nord-Est (RO21) region. While each of these regions faces specific challenges due to their economic, social and geographic characteristics, they are at the same time at least to some extent representative of other EU regions that share similar characteristics and/or challenges. In short, the main characteristics of the three case study regions are described as follows:

› Campania (NUTS code ITF3) is an urbanised, low growth region specialised in services activities. Major economic challenges are related to a slow growth performance combined with underperforming labour markets. Inter alia, economic development is hampered by low levels of governance and an unfavourable business environment…

› Norte (PT11) is a low growth region specialised in manufacturing. In the past, Norte suffered strongly from a decline of its traditional industry, leading to high levels of unemployment and a generally low growth performance. This decline was fuelled by a level of competitiveness too low to withstand pressures from globalisation, combined with an unfavourable sectoral structure and adverse macroeconomic conditions.

› Nord-Est (RO21) is a predominantly rural, low income region. Despite a decent growth performance this region suffers from a generally low level of economic development, due to comparatively low (domestic and foreign) investment activities.

In a first step, each case study covers the economic development in the respective region, highlighting the main strengths and weaknesses in the region's performance.

In a second step, each case study will identify the major, region-specific, causes of the observed developments. For this, the analysis will draw on the findings of Part I to Part III to filter out to which extent the macroeconomic environment, structural imbalances and investment trends and needs contributed to the observed development. By focusing on those causes that specifically affected the respective case study regions, each analysis develops a region-specific storyline on the success and failures in the region's economic development. To deepen the analysis of Part I to Part III, the analysis will use, where applicable and possible, national/regional data.

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[4] wiiw Research Report No. 421, 'Economic Challenges of Lagging Regions I: Fiscal and Macroeconomic Environment'; wiiw Research Report No. 422, 'Economic Challenges of Lagging Regions II: Recent Structural Reforms, Outstanding Needs and Governance Issues'; wiiw Research Report No. 423, 'Economic Challenges of Lagging Regions III: Recent Investment Trends and Needs'.

In a third step, each case study will develop conclusions based on the above analysis. These conclusions should be indicative of potential development opportunities for each region and the necessary policy measures to overcome existing challenges in order to exploit these opportunities.

Accordingly, each case study will be based on a uniform structure covering the three steps of analysis above. The specific content of each step will, however, vary across case studies, given their specific characteristics, challenges and stories behind their development. The structure of each case study as well as the main questions to be answered are described below:

Step 1: General characteristics, economic development, main strengths and weaknesses

› General and demographic characteristics, geographic location

- What are the main demographic characteristics in terms of population, population growth (could include migration), settlement structure (distribution of population rural/urban)?
- Are there possible links between demographic characteristics and the economic development in the region?
- How is the region located geographically? Does its location affect economic development?

› Economic development

- What was the aggregate economic performance of the region over the last 15 years (since 2000) in terms of GDP, employment, productivity?
- What were the main economic challenges of the region? (e.g. structural change, low competitiveness in Norte, low employment in Campania)
- Are there areas where the region performs well or shows some potential?

Step 2: Causes of developments

› What were the main causes of the economic development in the regions?

› Are these causes related to:

- Macroeconomic environment?
- Structural imbalances (e.g. governance, business environment etc.)?
- Investment trends?
- Lack of agglomeration economies?
- Accessibility?
- Technology?
- Other factors?

The most relevant causes will be analysed using data from national/regional statistics, Eurostat and other appropriate sources to provide deeper insights for each case study.

Step 3: Conclusions

By bringing together the results from Step 1 and Step 2, each case study will derive conclusions with respect to potential development opportunities for each region and the necessary policy measures to overcome existing challenges in order to exploit these opportunities.

3. Case study Campania

This report provides an in-depth analysis of three lagging regions with the aim of identifying their development opportunities and comparative advantages. The criteria applied (a combination of geographic location and economic structure) led to the selection of: a) a predominantly rural region specialised in agriculture (RO21 – Nord-Est); b) an urban/rural region, specialised in manufacturing (PT11 – Norte); and c) a largely urban region specialised in services (ITF3 – Campania).

The chapter is divided into three parts. The first part briefly presents the main characteristics of the region. These include the growth of population, the settlement structure and the geophysical features which might influence the region's economic development. They also include the economic performance of the region in terms of GDP growth, employment and productivity. The second part assesses the main causes of under-development of the region, building on the findings of the Country report on Italy (see online Annex I wiiw Research Report 425), and the main issues that need to be tackled in order to promote economic growth and development. The third part sums up the findings and highlights the areas where the region has potential development opportunities, indicating the possible policy measures to overcome the obstacles to growth and exploit the region's potential.

3.1. GENERAL CHARACTERISTICS, ECONOMIC DEVELOPMENT, MAIN STRENGTHS AND WEAKNESSES

Geographic and demographic characteristics

Campania is a NUTS 2 region, made up of five NUTS 3 regions: the provinces of Avellino, Benevento, Caserta, Napoli and Salerno. At the end of 2016, the region had a population of around 5.85 million (just under 10% of the Italian total), making it the third-most populous region in the country (after Lombardia and Lazio) and the most densely populated one (429 inhabitants per square km).

The region has the second highest birth rate in Italy (8.7 per 1,000 people), though one which is still well below what it needs to be to avoid a declining population, and the largest share of young people (about 19% of the total). Despite the low birth rate, population increased over the period 2002-2016 because of net inward migration, mainly from outside of Italy, though the increase was less than the national average (2.7% as against 6.9%) as a result of the lower rate of inward migration coupled with outward migration. Over the 7 years, 2009-2016, the population hardly changed (increasing by only 0.7%) and fell in two provinces (Avellino and Benevento) (Table 3.1).

Inward migration has increased the population share of people from abroad in the region over recent years, though it remains well below than the national average (5% as against 10%) (Table 3.2).

Table 3.1 / Total population (thousands) and % change in Italy, Campania and provinces, 2002-2016

	2002	2009	2016	% change 2002-2009	% change 2009-2016
ITF3 – Campania	5 701.4	5 812.9	5 850.9	2.0	0.7
ITF31 – Caserta	852.2	904.2	924.4	6.1	2.2
ITF32 – Benevento	286.9	288.7	280.7	0.6	-2.8
ITF33 – Napoli	3 060.1	3 074.4	3 113.9	0.5	1.3
ITF34 – Avellino	429.1	439.6	425.3	2.4	-3.2
ITF35 – Salerno	1 073.2	1 106.1	1 106.5	3.1	0.0
IT – Italy	57 059.0	59 095.4	61 016.3	3.6	3.3

Source: Istat.

Table 3.2 / Total foreign population (15-64) and change in Italy and Campania, 2003-2016

	2003 (thousands)	% of 15-64 total population	2016 (thousands)	% of 15-64 total population	% point change 2003 - 2016
ITF3 – Campania	34.9	0.9	196.3	5.0	4.1
IT – Italy	1 198.0	3.1	3 929.2	10.1	7.0

Source: Istat.

Population in Campania is disproportionately concentrated in Napoli, where over half of the people in the region live and where as a result population density is high (2,641 inhabitants per square km) (Table 4.3).

Table 3.3 / Population and population density in Campania and provinces, 2016

	Total population (thousands)	%	Density (population per square km)
ITF31 - Caserta	924.4	15.8	349
ITF32 - Benevento	280.7	4.8	135
ITF33 - Napoli	3 113.9	53.2	2 641
ITF34 - Avellino	425.3	7.3	152
ITF35 - Salerno	1 106.5	18.9	223
ITF3 - Campania	5 850.9	100	428

Source: Istat.

Economic performance

GDP per head in Campania has persistently lagged behind that in the rest of Italy. In 2000, it was 66% of the Italian average, which in turn was 18% above the EU average. In 2007, before the onset of the crisis, it had fallen slightly in relation to the Italian average, though the latter had fallen to only 5% above the EU average. In 2014, it had declined a little to 64% of the national average but this had fallen further in relation to the rest of the EU and was now 4% below the EU average (Figure 3.1).

Figure 3.1 / GDP per head, in PPS (EU-27=100)
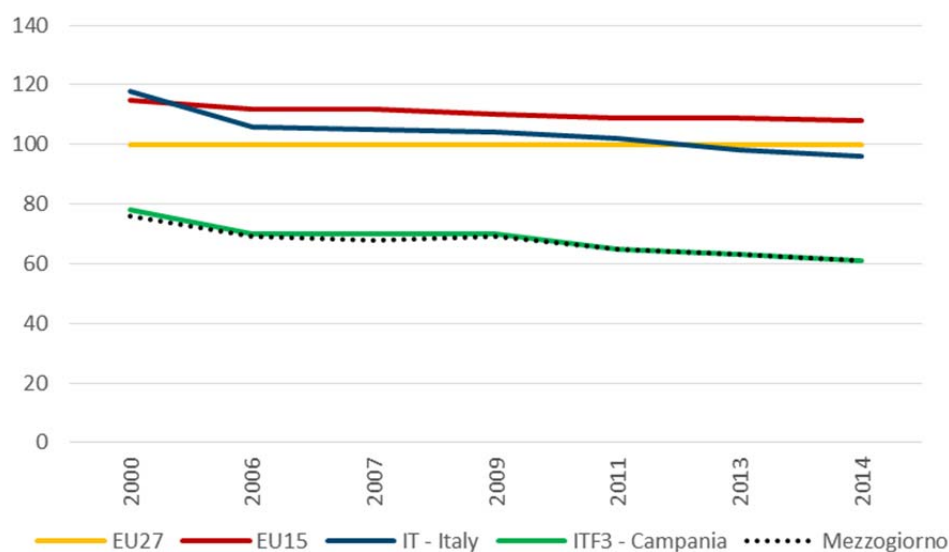
Source: Eurostat.

Accordingly, GDP of Campania represents only around 6% of the total national GDP.

The region is predominantly service-oriented. In 2013, over 80% of the region's gross value added (GVA) came from services (74% in Italy), with non-market services (public administration, education and health) accounting for much of it (24% as against 17% in Italy). Industry, therefore, accounted for only a small part of GVA (only around 11%, excluding construction, as against 19% in Italy), while agriculture made up just 3% (as against 2% nationally) (Table 3.4).

Table 3.4 / GVA in Campania, 2000 and 2013, and in Italy, 2013 (% of total)

| | Campania | | Italy |
	2000	2013	2013
Agriculture	3.1	3.0	2.3
Industry	16.4	11.4	18.5
Construction	4.8	5.1	5.1
Accommodation and food service activities	22.5	22.3	20.1
Information and communication	4.8	3.5	3.8
Financial and insurance activities	3.3	3.9	5.6
Real estate activities	9.5	13.4	14.0
Professional, scientific and technical activities	8.7	8.5	9.4
Public administration, defence, education, human health and social work activities	22.0	24.4	17.2
Arts, entertainment and recreation	4.9	4.5	4.0
Total - all NACE activities	100	100	100

Source: Eurostat [nama_10r_3gva].

Exports accounted for around 10% of regional GVA in 2014, much the same as in 2000. A large part of these were in traditional industries, particularly food processing (25% of the total exports in 2014) and clothing and footwear (12%). Although the contribution of high- and medium-high-tech industries is

significant (38% of the total), it has declined markedly since 2000 (when it amounted to 51% of the total), indicating a distinct loss of competitiveness (Table 3.20 in Annex A).

The share of employment in services is slightly smaller than their share of GVA (76% of the total as against 72% in Italy), whereas the share in industry, unlike that in the rest of the country, is more than its share of GVA (12.5% as opposed to 11.4%), implying a lower level of productivity than average and emphasising its low-tech nature (Table 3.5).

Table 3.5 / Employment by sector in Campania, 2000 and 2013, and in Italy, 2013 (thousands and %)

	Campania				Italy	
	2000	%	2013	%	2013	%
Agriculture	119.5	6.1	78.9	4.4	892.3	3.7
Industry	301.1	15.5	227.5	12.6	4 249.7	17.5
Construction	136.8	7.0	119.5	6.6	1 642.7	6.8
Wholesale and retail trade, transport, accommodation and food services	516	26.5	510.6	28.2	6 116.7	25.1
Information and communication	32	1.6	30.4	1.7	585.1	2.4
Financial and insurance activities	35.1	1.8	36.2	2.0	668.0	2.7
Real estate activities	6.8	0.3	7	0.4	179.5	0.7
Professional, scientific and technical activities	152.4	7.8	186	10.3	2 815.3	11.6
Public administration, defence, education, human health and social work activities	431.8	22.2	388.5	21.5	4 578.3	18.8
Arts, entertainment and recreation; other service activities	212.6	10.9	223.4	12.4	2 595.3	10.7
Total	1 944.1	100.0	1 808.0	100.0	24 322.9	100.0

Source: Eurostat [nama_10r_3empers].

It should be noted that, while it remained important, the share of employment in the non-market sector declined between 2000 and 2013, with a loss of over 40,000 jobs, which represents around a third of the total job losses in the region over the period. This reflects the cutbacks in public expenditure during the crisis. It should also be noted that other sectors have been unable to make good this loss, which was reinforced by reductions in jobs in agriculture, construction and, most especially, in industry.

These job losses reduced the employment rate in Campania even further to under 40% of working-age population, one of the lowest rates in the EU, with the employment rate of women being less than 30% (Table 3.6).

Table 3.6 / Employment rate, 15-64: EU-27, Italy, Campania and Mezzogiorno

	2000	2007	2015	% change 2000-2007	% change 2007-2015
Campania	**43.3**	**43.7**	**39.6**	**0.92**	**-9.38**
Italy	**55.5**	**58.6**	**56.3**	**5.59**	**-3.92**
Mezzogiorno	57.8	46.5	42.5	-19.55	-8.60
EU-27	62.1	65.2	65.7	4.99	0.77

Source: Istat, Eurostat [lfst_r_lfe2emprt].

The recent performance of manufacturing, which along with tradable services, remains a critical determinant of growth potential because of the export earnings from trade with both the rest of Italy and other countries it is potentially capable of generating, illustrates the development constraints faced by the region. Since 2007, as implied by the above figures for industry, GVA in manufacturing in Campania has declined markedly, falling by almost a third in real terms up to 2014, significantly more than the decline in the rest of the country (just over 20%)[5]. Moreover, while in Italy as a whole, there was only a marginal decline between 2009 and 2014, in Campania, it amounted to 16% (Figure 3.2).

Figure 3.2 / Employment and average hours worked in manufacturing in Italy and Campania, 2000-2014 (indices, 2000=100)
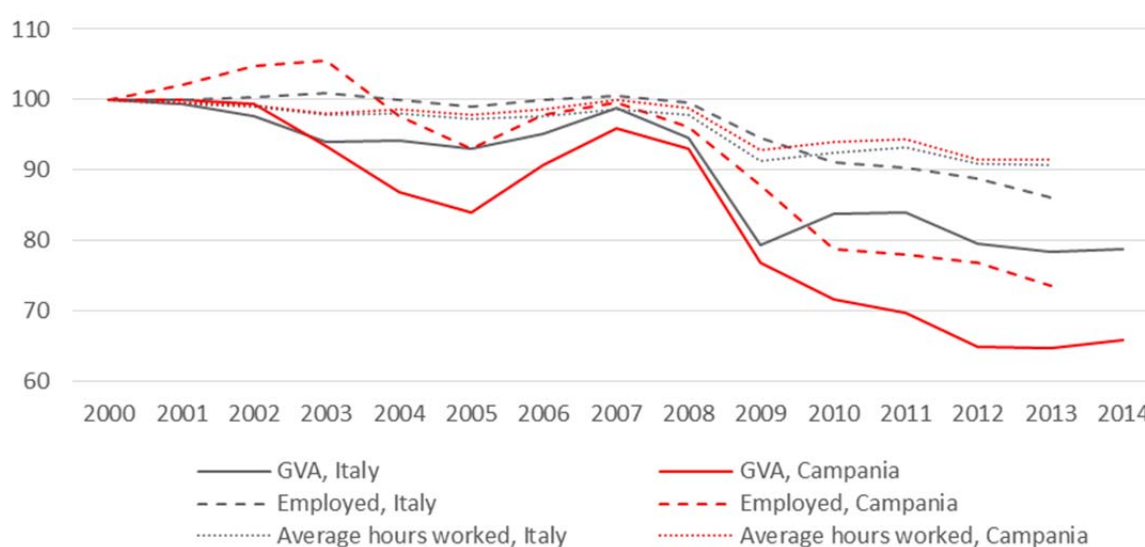
Source; Eurostat, Regional accounts.

The decline in GVA was accompanied by a fall in the numbers employed in manufacturing, both in the region and in the country, though in both cases, the fall was less than the reduction in GVA, so that GVA per person employed also declined over the period. This was compensated, however, by a reduction in the average hours worked by those in employment (by 8% on average in the country and 9% in the region) which served to arrest the decline in labour productivity (measured as GVA per hour worked). Nevertheless, labour productivity in manufacturing in Campania was still some 4% lower in 2013 than it had been 13 years earlier, while in Italy, it was about the same (Figure 4.3). Accordingly, the gap in productivity in the sector between the region and the rest of the country widened slightly further over the period (GVA per hour worked in manufacturing in 2013 was some 27% less in Campania than the Italian average).The implication is that wages in manufacturing in Campania would have needed to fall over these years to maintain cost competitiveness.

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[5]   The real terms figures here are calculated by adjusting the current price figures by the GDP deflator, which measures the average inflation in the economy, since there are no constant price figures available for manufacturing as such.

Figure 3.3 / Labour productivity in the economy and in manufacturing in Italy and Campania, 2000-2013 (GVA at constant 2010 prices per hour worked)
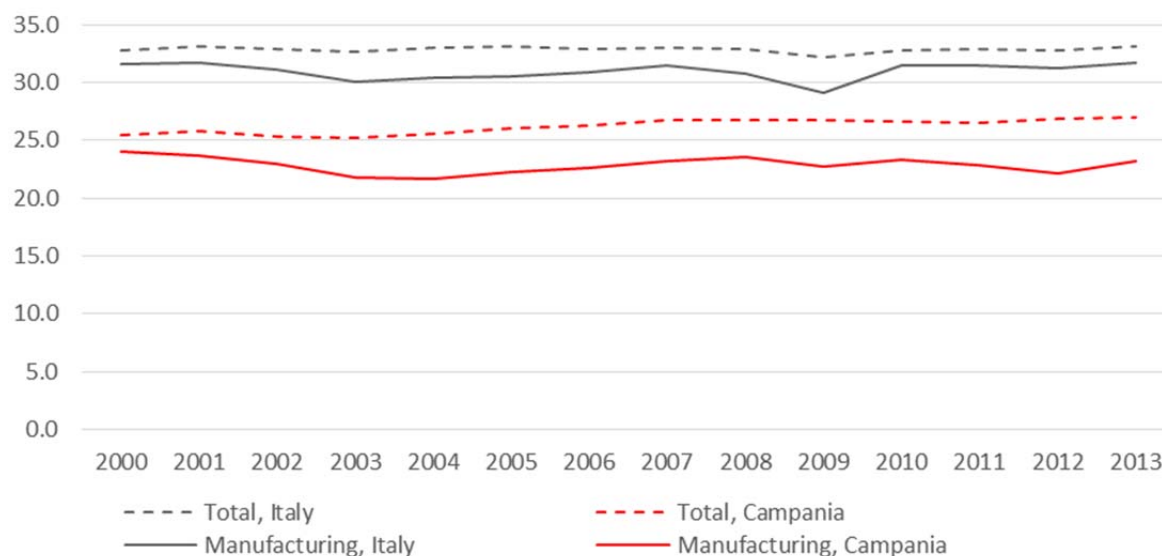
Source; Eurostat, Regional accounts.

Main economic challenges

This section highlights the main economic challenges faced by the region.

Labour market

The structural problems in the Campanian economy are reflected in a high rate of both long-term and youth unemployment. Those losing their jobs find it difficult to obtain new ones while young people entering the labour market from education have problems in finding employment.

Table 3.7 / Overall, long-term and youth unemployment in southern Italian regions, 2015

Region	Unemployment rate 15+ (%)	LTU rate (% total unemployed)	Youth unemployment rate 15-24 (%)
ITF1 – Abruzzo	12.6	60.5	48.1
ITF2 – Molise	14.3	67.8	42.7
ITF3 - Campania	**19.8**	**68.4**	**52.7**
ITF4 – Puglia	19.7	61.5	51.3
ITF5 - Basilicata	13.7	65.0	47.7
ITF6 - Calabria	22.9	66.4	65.1
ITG1 – Sicilia	21.4	65.4	55.9
ITG2 - Sardegna	17.4	53.7	56.4
IT - Italy	**11.9**	**58.1**	**40.3**
EU average	9.4	48.3	20.4

Source: Eurostat, LFS.

In 2015, the overall rate of unemployment was close to 20%, well above the national average and over twice the EU average. More relevantly perhaps, over two thirds of the unemployed had been out of work for a year or more, implying a long-term unemployment rate of 13.5%, high even by southern Italian standards and one of the highest in the Union (Table 3.7).

At the same time, over half of the young people aged 15-24 years who had entered the labour market were unemployed in the region and some 29% of the age group were neither employed nor in education or training (NEET), again well above the national average and even further above that in the rest of the EU (Figure 3.4). The lack of jobs for young people seems to affect them irrespective of their level of education. In 2015, less than a quarter of those aged 25-29 with tertiary education were in employment as opposed to close to 80% in the EU.

Figure 3.4 / NEET rate in Italy, 2015 (% of age group 15-24)
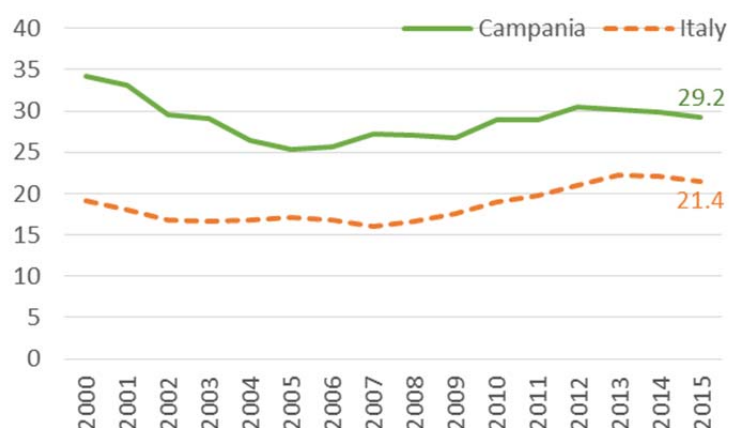
Source: Eurostat, LFS.

Table 3.8 / Total employment rate and employment rate for women, 20-64, Italy, 2015

Region	Employment rate (20-64), %	Female employment rate (20-64), %
ITF1 – Abruzzo	58.6	46.2
ITF2 – Molise	53.2	42.5
ITF3 - Campania	**43.1**	**29.8**
ITF4 – Puglia	47.0	33.0
ITF5 - Basilicata	53.1	39.4
ITF6 - Calabria	42.1	31.0
ITG1 – Sicilia	43.4	30.5
ITG2 - Sardegna	53.5	45.2
IT - Italy	**60.5**	**50.6**
EU average	70.0	64.2

Source: Eurostat, LFS.

The general lack of jobs is reflected in low employment rates, which in turn reflect not only high rates of unemployment but also low labour force participation, especially among women. In 2015, only 43% of

working-age population (20-64) were employed, substantially below the national average and in the EU as a whole (Table 3.8).

The employment rate of women is even lower – only 30% of women aged 20-64 being in paid work – and, like the overall rate, the lowest in Italy. This reflects a low rate of participation in the workforce – less than 40% of women in this age group were economically active in 2015 – more than a high rate of unemployment, but while there are cultural obstacles in the regions, as in other parts of southern Italy, to women working, almost a quarter of the women who were inactive, 15% of the age group, were not looking for jobs because they believed that none were available. This is well over twice the average in the rest of Italy (6%) and considerably above the EU average (less than 2%).

Education

The relatively low education level of the workforce in Campania is a major factor underlying the low level of employment and a serious constraint on development. Although this is a general problem in Italy, which lags behind the rest of the EU in this respect, it is even more of a problem in Campania. Almost half the people aged 25-64 have only basic schooling, over twice the EU average, while only 15% have tertiary education, half the EU average (Figure 3.5).

Figure 3.5 / Educational attainment by broad ISCED level in Italy, % of population aged 25-64, 2015
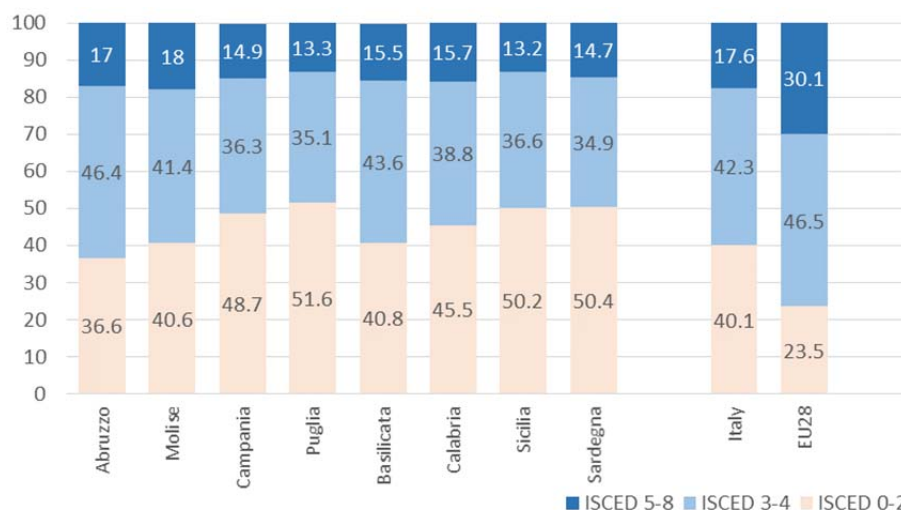
Source: Eurostat, LFS [edat_lfse_04].

While education levels are improving, as reflected in the larger share of the 25-34 age group with tertiary education (21%, 6 percentage points above the share for those aged 25-64), they are improving less quickly than in other parts of the EU (10 percentage points above the share for those aged 25-64) (Table 3.9).

Table 3.9 / Highest educational level attained among people aged 25-34 in Italy, 2014

Region	ISCED 3-8	ISCED 5-8
	%	%
ITF1 – Abruzzo	81.9	23.6
ITF2 – Molise	80.6	27.5
ITF3 - Campania	**69.9**	**20.7**
ITF4 – Puglia	69.7	22.1
ITF5 - Basilicata	75.6	22.4
ITF6 - Calabria	76.0	24.8
ITG1 – Sicilia	66.9	17.7
ITG2 - Sardegna	63.8	16.3
IT - Italy	**75.9**	**24.9**
EU average	85.3	39.7

Source: Eurostat, LFS [edat_lfse_04].

There is improvement too in the rate of school drop-out, or in the proportion of those aged 18-24 with no qualification beyond basic schooling and no longer in education or training. The proportion has declined by around 12 percentage points since 2001, though in 2015, it still stood at 19% of the age group, well above both the national and the EU average (Figure 3.6).

Figure 3.6 / Early leavers from education and training in Italy, 2015 (% of age group 18-24)
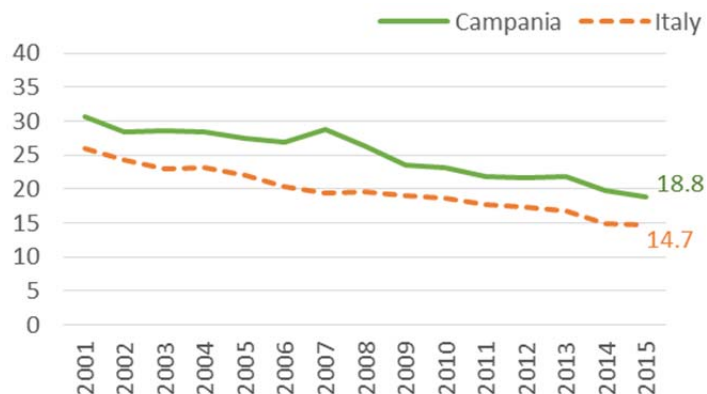
Source: Eurostat, LFS.

Table 3.10 / Scholastic performance in reading and mathematics in Italian regions (% of 15-year-olds with a grade lower than I)

Region	Reading			Mathematics		
	2009	2012	2015	2009	2012	2015
ITF3 - Campania	**31.5**	**28.2**	**31.2**	**37.9**	**35.8**	**36.1**
IT - Italy	**21.0**	**19.5**	**20.9**	**24.9**	**24.7**	**23.2**
North	14.9	12.9	13.5	17.1	16.1	15.4
Centre	20.5	20.2	20.4	24.4	24.6	20.2
Mezzogiorno	27.5	26.5	29.4	33.5	34.4	33.0

Source: Istat

The relatively high rate of school drop-out is reflected in the poor results of young people at school in PISA tests, which is an indicator of the generally low quality of education in the region. Over twice the proportion of 15-year-olds assessed by PISA performed poorly in reading and mathematics than in the North of Italy (Table 3.10).

Business environment

The structure of enterprises in Campania is itself an obstacle to growth. Only a relatively small share of employment is in enterprises in the tradable goods and services sector (22% in 2014 as opposed to 37% in the rest of Italy), while both the number of enterprises relative to population and their relative size is much smaller than in the latter (Table 3.11). This implies that a relatively large number of the enterprises in the sector in the region are either micro-sized (with less than 10 people employed) or small (with 10-49 people employed) and so, accordingly, not large enough in many areas to be competitive. On the other hand, the birth rate of enterprises in relation to population is higher than in the rest of the country, though still less than the average rate in the EU. The churn rate, however, is also higher than in other parts of Italy, implying that the death rate of companies is equally higher, highlighting the difficulties that firms which are set up have to survive.

Table 3.11 / Enterprise density, average size of enterprise and enterprise birth rate in the tradable sector, 2014

	Employed in tradable as % total	Employment per enterprise	Enterprises per 1,000 popn.	Enterprise births per 1,000 popn	Churn rate
	2014	**2014**	**2014**	**2014**	**2013**
ITF1 – Abruzzo	27.1	8.3	12.5	1.2	18.5
ITF2 – Molise	16.5	5.7	10.3	1.1	21.4
ITF3 - Campania	**22.1**	**7.4**	**9.1**	**1.1**	**20.1**
ITF4 – Puglia	21.2	6.7	10.1	1.0	18.3
ITF5 - Basilicata	19.1	6.7	9.5	0.9	18.5
ITF6 - Calabria	13.3	5.0	8.4	1.0	21.1
ITG1 – Sicilia	16.2	5.8	8.3	0.9	19.8
ITG2 - Sardegna	18.5	6.3	10.5	1.0	18.4
IT - Italy	**33.0**	**11.0**	**12.0**	**0.9**	**15.6**
North-Centre	37.9	12.8	13.4	0.9	14.5
Mezzogiorno	19.5	6.6	9.4	1.0	19.5
EU (excl. IE, EL, FR, CY, RO)	30.5	12.6	11.0	1.3	20.1

Source: Eurostat, Employer Business Demography statistics for the tradable goods and service sector.

Despite the birth rate of enterprises being higher than average, it is also the case that the cost of setting up a new business in Campania is higher than in any other region of Italy and the time involved longer (Table 3.12). A possible explanation of the higher birth rate in spite of the costs involved could lie in the lack of jobs and the limited alternatives which exist to get into employment.

Table 3.12 / Starting a business indicators in Italy, 2016

Region (city)	Procedures (number)	Time (days)	Cost (% income per head)
ITF1 - Abruzzo (L'Aquila)	6	13	13.3
ITF2 - Molise (Campobasso)	7	8	15.3
ITF3 - Campania (Napoli)	**6**	**16**	**16.0**
ITF4 - Puglia (Bari)	6	9	12.2
ITF5 - Basilicata (Potenza)	6	8	12.6
ITF6 - Calabria (Catanzaro)	6	7	12.4
ITG1 - Sicilia (Palermo)	6	8	13.5
ITG2 - Sardegna (Cagliari)	6	9	15.3
Italy	**5**	**5.5**	**13.8**

Source: World Bank, Doing Business Report 2017 – EU; Doing Business Report 2017 – Italy; DG Regio data for regions.

Governance and quality of the institutions

The environment in which enterprises need to operate in Campania does not only involve relatively high start-up costs but also entails a low quality of government and the significant presence of organised crime. Although there are no statistics on the effect of the latter in deterring companies from establishing in the region, the presence of the Camorra is undoubtedly a major obstacle to investment and economic development[6]. Equally, the fact that Campania is ranked among the bottom 5 regions in terms of the quality of government reinforces this obstacle (Table 3.13).

Table 3.13 / European Quality of Government Index for Italy, 2010 and 2013

	2010		2013	
	(0-100)	rank	(0-100)	rank
ITF1 – Abruzzo	41.6	185/236	28.7	200/236
ITF2 – Molise	34.1	194/236	18.3	220/236
ITF3 - Campania	**9.4**	**234/236**	**7.7**	**232/236**
ITF4 – Puglia	22.7	219/236	19.4	216/236
ITF5 - Basilicata	33.6	196/236	22.7	208/236
ITF6 - Calabria	12.4	233/236	17.8	222/236
ITG1 – Sicilia	20.6	223/236	19.7	213/236
ITG2 - Sardegna	42.1	181/236	24.8	204/236
IT - Italy	**40.7**		**31.8**	
North	53.7		42.3	
Centre	42.8		30.5	
Mezzogiorno	20.0		16.8	
EU average	61.7		51.2	

Source: Nicholas, C., Dijkstra, L. and Lapuente, I. (2015), 'Mapping the Regional Divide in Europe: A Measure for Assessing Quality of Government in 206 European Regions', *Social Indicators Research*, 122(2), pp. 315-346.

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[6]   The murder rate in the region attributable to a criminal organisation is relatively high (see Annex B) but this gives only a very partial indication of the scale of the presence of the Camorra in Campania, which is considered to be much larger than that of the Mafia in Sicily (see: 'Man who took on the Mafia: The truth about Italy's gangsters', *The Independent*, 17 October 2006).

The scale ranges from 1 to 100, higher values corresponding to a better quality of government.

The poor quality of government in Campania is reflected in the low standard of the public services provided. According to data collected by Istat in 2016 as part of the 'Aspect of daily life' annual survey[7], a larger share of families in Campania than in the rest of the country reported being unsatisfied with basic public services, such as street cleaning, public transport, traffic management and road conditions (Table 3.14).

Table 3.14 / Quality of municipal services (% of families very or partially unsatisfied), 2016

Region	Street cleaning	Connection with public transport	Traffic	Road conditions
ITF1 – Abruzzo	25.1	24.6	27.1	52.8
ITF2 – Molise	21.3	22.0	21.5	44.6
ITF3 - Campania	**36.2**	**54.5**	**41.7**	**57.6**
ITF4 – Puglia	36.2	27.9	41.0	58.7
ITF5 - Basilicata	34.5	30.8	29.7	59.8
ITF6 - Calabria	30.4	42.3	27.2	57.6
ITG1 – Sicilia	38.5	34.0	42.2	58.8
ITG2 - Sardegna	37.7	27.5	33.5	57.2
IT - Italy	**33.0**	**32.9**	**37.9**	**54.1**
North	28.5	29.1	35.8	46.6
Centre	39.8	34.1	42.6	65.4
Mezzogiorno	35.3	37.6	37.9	57.6

Source: Istat.

Table 3.15 / Quality and accessibility of healthcare services, 2016

	Quality of the service (% of people with at least one hospitalisation in the last 3 months very satisfied)	Accessibility of the service (% of people aged 18+ using local health services considering them accessible)
ITF1 – Abruzzo	51.6	70.3
ITF2 – Molise	20.5	68.8
ITF3 - Campania	**20.4**	**59.1**
ITF4 – Puglia	18.5	56.2
ITF5 - Basilicata	36.2	64.3
ITF6 - Calabria	23.7	57.9
ITG1 – Sicilia	24.5	62.4
ITG2 - Sardegna	40.0	63.5
IT - Italy	**39.3**	**69.4**
North	50.9	74.3
Centre	35.8	68.6
Mezzogiorno	25.5	60.9

Source: Istat.

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[7]   Istat 'Multipurpose household survey – Aspects of daily life'. The survey is carried out on a sample of about 28,000 households distributed in about 850 Italian municipalities of different demographic size.
https://www.istat.it/it/archivio/91926

The management of the healthcare system also appears to be weak. Although the deficit of the region on the healthcare budget was reduced to zero in 2013 (Banca d'Italia, 2015), the quality and accessibility of some of the services remain below the national average (Table 3.15).The low quality of the service in the region is also reflected in the fact that some 73,000 patients (around 7% of the total number needing hospital treatment in Campania) decided to have treatment in other regions.

Conclusion

Campania is a region with a relatively low income per head which has persistently lagged behind regions in other parts of Italy. It has a large conurbation and a younger population than the rest of Italy both of which should give a favourable basis for growth.

Like other regions in the South of Italy, it has a relatively small manufacturing sector which has declined over the past 15 years or more, along with the share of medium-to-high-tech sectors within it. Accordingly, traditional industries like food processing, clothing and footwear account for a large proportion of output. The economy is dependent to a significant extent on public services as a source of both income and jobs, but the cutbacks in government expenditure over the crisis period have led to a reduction in their scale. Agriculture accounts for only a very small proportion of value added and employment but remains an important source of inputs for the export sector.

The main obstacles to development investment lie in the low level of education of the workforce, the presence of organised crime and the poor quality of local and regional government. Corruption is at least as much of a problem as in the rest of Italy.

While the relatively large number of young people in the region represent a potential opportunity for the future development of the economy, they are at present seen as more of a problem because they expand the number of those looking for jobs.

3.2. CAUSES OF UNDERDEVELOPMENT AND CONSTRAINTS

As indicated above, the **business environment**, **governance**, **education** and the **labour market** are the main areas where significant obstacles to growth exist in Campania. Governance and the education system are also areas which the 2016 Regional Competitiveness Index (RCI)[8] identifies as hindering the competitiveness of Campania. These are, therefore, the areas in which structural reforms are most needed.

The analysis below, therefore, focuses on the factors underlying poor governance in the region, the low level of education of working-age people and rigidities in the labour market.

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[8]   This index is developed by DG Regional and Urban Policy of the European Commission. It takes into account three different dimensions of competitiveness ('**basic dimension**' including institutions, macroeconomic stability, infrastructure, health and basic education; '**efficiency dimension**' including higher education and lifelong learning, labour market efficiency and market size; and, '**innovation dimension**' including technological readiness, business sophistication and innovation). RCI scores are used to compare a region with others at a similar level of economic development ('peer regions'). To facilitate a comparison with peers, a scorecard is used to show a region's strength and weaknesses relative to regions with a similar GDP per head. Campania's peer regions are: Extremadura (ES), Norte (PT), Severozápad (CZ), Lódzkie, Malopolskie, Pomorskie (PL), Latvija (LV), Kriti, Peloponnisos, Sterea Ellada (EL), Kontinentalna Hrvatska (HR), Stredné Slovensko (SI), Sicilia, Calabria, Puglia (IT).

Governance and quality of the institutions

After the 1999 and 2001 reforms, which expanded the autonomy of the Italian regions, the Campania regional authorities are responsible for the provision of the majority of public services at the local level, such as local police, healthcare, transportation, maintenance of roads, waste management, etc. The region is also accountable to a large extent for its own economic development and enjoys a relatively high degree of autonomy over the taxes it levies, though around 40% of its revenue comes from direct transfers from the central government (Banca d'Italia, 2015).

As noted above, the widespread influence of a powerful **criminal organisation** in the form of the Camorra represents a major deterrent to investment in Campania.

The Camorra is a particularly efficient and modernised variant of the Sicilian Mafia[9]. It is pervasive across the region, most especially in the provinces of Napoli and Caserta. Its activities include extortion, racketeering and illegal trafficking of drugs and chemical waste as well as money laundering. Moreover, through the use of legitimate business facades, it is also involved in legal activities, particularly in the construction industry and waste management (as the waste emergency in 2008, when rubbish piled up on the streets of Naples, made evident). Such activities enable it to bid for public tenders and to obtain government funding and subsidies through exercising its comparative advantage over legitimate competitors.

While the Camorra reinvests some of its illicit gains in the North of Italy (where its influence is spreading) and abroad (e.g. in Spain, France, the Netherlands and Germany), it remains rooted very much in Campania, as is reflected in the crime statistics (Table 3.16 and Table 3.21 in Annex B). These show that the incidence of organised crime is among the highest in Italy.

Table 3.16 / Cases of mafia-type crime in Southern Italian regions (per 100,000 inhabitants)

Regions	2010	2015
TF6 - Calabria	2.0	0.7
ITF3 - Campania	**0.8**	**0.7**
ITG1 - Sicilia	0.5	0.3
ITF4 - Puglia	0.2	0.2
ITF5 - Basilicata	0.2	0.0
ITF1 - Abruzzo	0.1	0.0
ITF2- Molise	0.0	0.0
ITG2 - Sardegna	0.0	0.0
IT - Italy	**0.2**	**0.1**

Source: Istat.

One of the main reasons for poor governance in Campania is the high level of exposure to **corruption** and bribery. This severely constrains development through its adverse effect on investment.

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[9]   In 'Threat Assessment: Italian organized crime' (2013), Europol describes the Camorra as 'a horizontal cluster of Clans and Families, often associated in alliances or […] in cartels and […] characterised by their extreme volatility in internal and external relationships' (p. 12).

In particular, the management of the healthcare system in Campania raises concern because of its vulnerability to corruption. A survey by the University of Gothenburg (2010) found that informal payments were a systemic problem in Campania, around 15% of respondents reporting that they had paid a bribe over the previous 12 months. In both 2010 and 2013, Campania was the region with the highest level of perceived corruption in the healthcare system in the whole of Italy.

The 1999 and 2001 constitutionals reforms, devolving more powers to the regions, seem to have done little to improve the system of governance in Campania. While the survey of the healthcare system undertaken by the University of Gothenburg indicates some improvement between 2010 and 2013, the organised crime statistics show only a marginal reduction between 2010 and 2015 and the overall quality of governance remains low.

Further improvements in governance depend to a large extent on the actions taken at the central government level. The 2013 re-organisation of the authorities responsible for supervising accountability, anti-corruption practices and for assessing public sector performance (i.e. the creation of ANAC – National Anticorruption Authority) is a step forward. At regional level, however, more transparency in the procedures relating to the selection of administrators, such as health managers, is needed, while there is an equal need to ensure better management of EU funds and to increase the administrative capacity to do so.

Education

The **low level of education** of population of working age – i.e. the potential labour force – is a result of both a relatively low completion rate of tertiary education (even lower than on the Italian average which is already much lower than in the rest of the EU – see above) and a significant tendency for the young people who do complete it to move to the north of Italy and abroad.

In the 2011-2013 period, around 15 graduates for every 1,000 inhabitants moved away from Campania towards the Centre-North as compared with the 8 per 1,000 that changed their region of residency in the rest of the country (Annual report on the economy of Campania, Banca d'Italia, 2015). Those moving, moreover, were predominantly young people aged 25-34 years and more so than in the case of other regions. This is a reflection of the lack of job opportunities for people with this level of education in the region. It contributes to a vicious downward spiral, whereby the outward movement itself reduces the attractiveness of the region for investors and leads to even fewer job opportunities being created.

Graduate movement from Campania towards regions to the north was also on the increase before the crisis hit. Between 2001 and 2005, there was a net outward movement of 8 graduates for every 1,000 inhabitants as compared with one of 3 per 1,000 between 1991 and 1995 (according to a Banca d'Italia study of 2010).

Early school leaving is the result of multiple factors. Along with aspects which are common to other places, in particular, the low socio-economic status of the households from which the young people come and the low standard of teaching, there are also context-specific factors. These include a widespread perception that labour market returns to education are low, a social environment which

discourages education, the negative influence of peers and criminal organisations (Agenzia Regionale per il Lavoro e l'Istruzione – ARLAS, 2015) and a high youth unemployment rate.

Action has been taken in the recent past to tackle the problem, in the shape of an 'early warning system' implemented by the Regional Schools Office to identify those most at risk of dropout. However, according to ARLAS (2015), it is the failure to adapt the kind of education available to young people's needs and to the skills demanded by the local labour market which is primarily responsible and which is most in need of change. It is noteworthy that it was only in 2014 that Campania introduced procedures to create technical education centres in the region to diversify the opportunities open to young people[10].

According to the European Commission Thematic Working Group on Early School Leaving (2013)[11] a comprehensive strategy needs to be implemented combining prevention, intervention and compensation measures. In practice, Campania, like other Italian regions, is only partly responsible for education and needs to focus on measures where it has exclusive competence, such as the provision of vocational education and training, in particular. In this regard, the Thematic Group suggests that Campania should seek to provide high quality, structured work-based vocational education and to increase the cooperation with enterprises. On the 'early warning system' implemented by the Regional Schools Office, it suggests a need to broaden the perspective, taking account not only of absenteeism but also of examination results and family-related factors as well as traumatic events.

Labour market

There are a number of factors underlying the high rate of youth unemployment in Campania. One is the depressed nature of the Italian economy but even during the period of relative economic growth before the global recession struck, the rate was still around 30%. Long-term structural factors seem to be mainly responsible, not least the mismatch between the content of education and training programmes and labour market needs.

The regional authorities in Campania have introduced various measures to improve the chances of young people finding employment, such as traineeships, many of them with the support of the European Social Fund (ESF), such as the Youth Guarantee. These programmes, however, have been limited in scope in relation to the scale of youth unemployment in the region. According to Banca d'Italia (2015), up to mid-2015, 26,000 young people had been accepted under the Youth Guarantee, which represents only about 9% of the overall number of young people (15-29) unemployed or inactive but available for work in 2013[12]. This suggests that a significant strengthening of active labour market policies for young people is called for.

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[10] Regione Campania, Regional Decree 834 on 'Strengthening the Technical-Professional Education in Campania – D.G.R n. 83 14/03/2013 Technical Professional Poles. Implementing provisions'.

[11] European Commission/Education and Training (2013), Reducing early school leaving: Key messages and policy support. Final Report of the Thematic Work Group on Early School Leaving. More information is also provided at http://ec.europa.eu/education/policy/school/early-school-leavers_en

[12] Banca d'Italia (2015), 'Economie regionali. L'economia della Campania', No 15, June (p. 22). It is worth nothing that in the same study, the author indicates that at mid-2015 the resources committed by the Campanian authorities amounted only to 59% of the budget allocated to this area, while in the rest of Italy they amounted to 71% on average, which is again evidence of poor governance.

Unlike dual systems, which provide simultaneously theoretical teaching and practical experience, the Italian education system is of a sequential type, in that work experience is gained only after general, broad-based education. In the past, various forms of employment flexibility have been introduced to ease the transition from education to work, including removing constraints on the use of atypical contracts (fixed-term ones especially). Apprenticeships, though envisaged in labour legislation, remain underused, largely because of the cost involved to the employer, who has both to pay a wage and ensure the provision of training necessary for the acquisition of vocational skills. Unlike other atypical contracts, however, apprenticeship have the potential to narrow the mismatch between the supply of skills and the demand for them and, accordingly, deserve being actively promoted, which since it has competence over active labour market policies as well as vocational education training, the region could do, together with encouraging cooperation between schools and business in the formulation of training programmes.

Social norms and traditions combine with the scarcity of social services, especially of childcare – which itself is a reflection of these norms and traditions – to reduce the rate of participation of women in the workforce. In 2013, there were less than 6 places available for every 100 children aged 0-2 in public and private nurseries and only 3% of the children actually took them up. In the rest of the country, by contrast, there were more than 20 places available per 100 children and 13% of 0-2-year-olds took them up. Moreover, in Campania, around EUR 177 was spent for every 100 children of this age as against an average of EUR 780 in Italy as a whole (Table 3.17).

Table 3.17 / Childcare services for children aged 0-2 in Italian regions, 2013

Region	Children in nurseries (% 0-2-year-olds)	Number of places in nurseries (per 100 0-2-year-olds)	Total municipal costs for childcare services (EUR per 100 0-2-year-olds)
ITF1 – Abruzzo	10.1	17.8	472
ITF2 – Molise	8.6	19.6	235
ITF3 - Campania	**2.7**	**5.4**	**177**
ITF4 – Puglia	4.5	11.6	233
ITF5 - Basilicata	6.5	12.5	286
ITF6 - Calabria	1.4	10.0	46
ITG1 – Sicilia	5.0	10.7	440
ITG2 - Sardegna	10.7	24.1	455
IT - Italia	**12.9**	**20.5**	**780**
North	16.9	24.9	908
Centre	17.8	27.0	1 328
Mezzogiorno	4.8	11.0	284

Source: Istat.

Increased availability of childcare and other social services is essential to increase the participation of women in the workforce. Labour market reforms, however, are also important to ensure that people can achieve a reasonable work-life balance. These include leave arrangements that can be equitably shared between parents, flexible working arrangements to facilitate full-time working by those with caring

responsibilities and measures which facilitate the transition from part-time to full-time jobs and take account of the impact on pension entitlement of those working part-time[13].

Conclusions

Campania's economic performances and level of competitiveness are constrained by three major factors: the low standard of governance and poor quality of public institution, which are affected by the pervasive nature of organised crime and corruption, the low level of education of the workforce and structural problems in in the labour market. These create an environment which deters investment and encourages the outward movement of highly qualified workers, both of which hinder growth and economic development.

3.3. POTENTIAL DEVELOPMENT OPPORTUNITIES

The concern here is to identify areas where there are potential development opportunities for growth and to indicate policy measures to overcome the obstacles in order to realise these opportunities. The aim has to be to develop areas which are likely to generate jobs for both people with low skill levels and those with higher levels. There is an immediate need, on the one hand, to reduce the very high level of unemployment among young people and, on the other hand, to prevent the brain-drain of university graduates to more northerly regions, which, if it continues, will further damage the region's growth opportunities. At the same time, the areas in question need to underpin the long-term development of the regional economy which, in practice, means that they have to generate net exports and the income to support the expansion of the services sector on which high levels of employment depend.

Culture and tourism

Culture and tourism are two inter-related areas in which the region has a comparative advantage which can be strengthened much further through the judicious choice of policies and a coherent development strategy which explicitly recognises the links between the two. At present, the two account for only around 4% of regional GVA and for 5% of total employment but their importance to the economy is far greater because of their potential for generating net exports.

In 2015, Campania was the destination for over half the tourists visiting the Mezzogiorno but for only around 5% of all tourism in Italy. Although the number of tourists increased by 15% over the period 2000-2015, this was much less than the increase for the Mezzogiorno (32%) and even further below the increase for Italy as a whole (42%). In addition, the number of overnight stays declined over this period, implying a relative increase in day visitors, whereas it rose in the rest of the Mezzogiorno and the rest of Italy. On the other hand, the proportion of tourists from abroad rose to much the same extent as in the rest of the Mezzogiorno and the rest of the country (Table 3.18).

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[13] These are measures advocated in the European Semester Thematic Fiche (2015), Labour Market Participation of Women (p. 9).

Table 3.18 / Number of total tourists, % of foreign tourists and overnight stays in Campania, Italy and Mezzogiorno, 2000 and 2015

	Total number of tourists (thousands)			Foreign tourists (% of total)			Total nights spent (per thousand inhabitants)		
	2000	**2015**	**% change 2000-2015**	**2000**	**2015**	**%-point change**	**2000**	**2015**	**% change 2000-2015**
ITF1 – Abruzzo	1 262	1 490	18.1	12.8	11.5	-1.3	4 980	4 564	-8.4
ITF2 – Molise	184	149	-19.1	9.0	9.0	0.0	1 978	1 570	-20.6
ITF3 - Campania	**4 566**	**5 258**	**15.1**	**39.4**	**44.1**	**4.7**	**3 620**	**3 217**	**-11.1**
ITF4 – Puglia	1 834	3 435	87.3	14.9	21.3	6.4	2 144	3 307	54.2
ITF5 - Basilicata	354	674	90.1	11.0	14.2	3.2	2 430	3 993	64.3
ITF6 - Calabria	1 083	1 482	36.8	12.6	16.7	4.1	3 097	4 124	33.2
ITG1 – Sicilia	5 680	4 529	-20.3	26.4	44.3	17.9	2 685	2 850	6.1
ITG2 - Sardegna	3 958	2 610	-34.1	10.6	46.3	35.7	5 783	7 451	28.8
IT - Italy	**80 032**	**113355**	**41.6**	**43.9**	**48.5**	**4.6**	**5 953**	**6 460**	**8.5**
Mezzogiorno	8 124	10 759	32.4	27.9	32.2	4.3	3 416	3 650	6.9

Source: Eurostat [tour_occ_arn2] [tour_occ_nin2].

Many of the tourists to the region are attracted by its cultural heritage, such as the Roman ruins at Pompeii and the royal palace at Caserta (both among the 10 most visited cultural sites in Italy), as well as the old city of Naples. Indeed, growth of tourism to the region in future years depends very much on its historical and cultural attractions. Campania accounts for a significant proportion of the archaeological sites and museums in the Mezzogiorno and in Italy as a whole. The number of visitors to these, however, while increasing by 15% between 2000 and 2015, expanded by less than to those in other parts of the country and the revenue generated similarly rose by less than elsewhere (Table 3.19).

Table 3.19 / Number of museum and archaeological sites, number of visitors and revenue generated in Campania, Italy and Mezzogiorno, 2000 and 2015

	Number of museums and archaeological sites			Number of tourists (thousands)			Revenue (EUR thousands)		
	2000	**2015**	**% change 2000-2015**	**2000**	**2015**	**% change 2000-2015**	**2000**	**2015**	**% change 2000-2015**
ITF1 – Abruzzo	22	38	72.7	162	161	-0.5	168	71	-58.0
ITF2 – Molise	14	24	71.4	53	76	44.6	22	28	30.3
ITF3 - Campania	**94**	**116**	**23.4**	**6142**	**7073**	**15.2**	**19820**	**35485**	**79.0**
ITF4 – Puglia	30	34	13.3	370	591	59.7	322	1190	269.5
ITF5 - Basilicata	22	32	45.5	245	256	4.6	72	186	158.9
ITF6 - Calabria	38	32	-15.8	379	358	-5.6	323	409	26.7
ITG1 – Sicilia	22	38	72.7	366	495	35.2	279	1233	341.9
Italy	**760**	**890**	**17.1**	**30176**	**43792**	**45.1**	**77015**	**155494**	**101.9**
Mezzogiorno*	242	314	29.8	7716	9009	16.8	21005	38603	83.8

Note: * Mezzogiorno average does not include the values for Sicilia, which are not provided in the Ministry database.
Source: Ministry of Cultural Heritage, Activities and Tourism 2000-2015.

The evidence suggests that there is a significant gap between the cultural richness of the region and the number of tourists, and the potential of the assets that it possesses in this respect remains under-

exploited. This is reflected in the measure of tourist attractiveness developed by Istat[14], which shows the number of tourist visits in relation to population being less than in the Centre and North of the country (Figure 3.7).

Figure 3.7 / Tourist attractiveness in Campania, Italy and in the North, Centre and South, 2000-2015 (days presence of visitors in accommodation in relation to population)
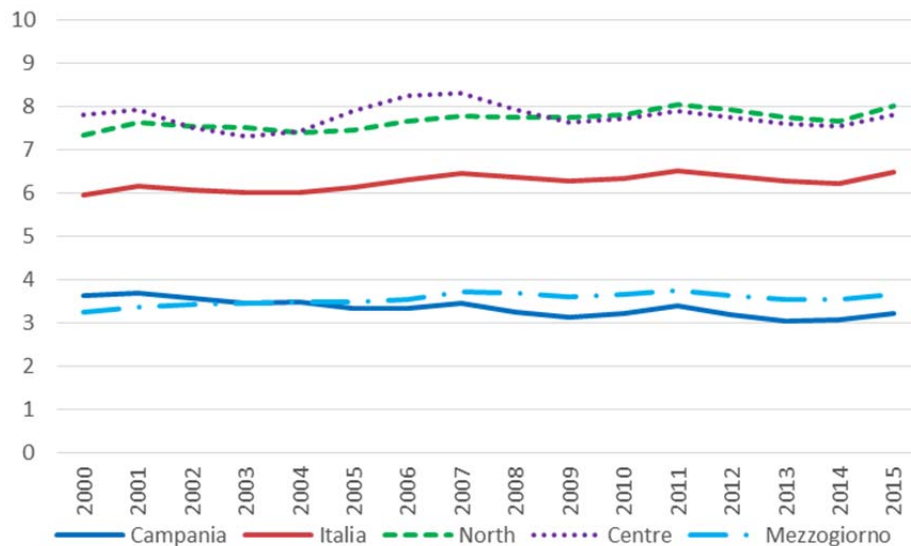
Source: Istat.

The reasons for this are several. The National OP on Culture 2014-2020 indicates that in Campania as in the other Southern regions, the quality of transport infrastructure and the accessibility of certain areas remain low. Tourism is still concentrated very much in the summer season which is relatively short, and apart from around Christmas and Easter, tourist facilities are substantially underutilised. In addition, there is insufficient recognition of the link between tourism and culture and the relationship between the two is underdeveloped, so leaving potential opportunities for expanding tourism untapped.

While responsibility for culture and tourism under the Italian legislation is shared between the central government and the region, the latter is responsible for regulating tourist businesses, developing strategic marketing activities and managing the European Structural and Investment (ESI) Funds[15]. The region, therefore, has both the power and resources to develop a coherent strategy for investing in the preservation and improvement of the cultural heritage and in tourist facilities, including in the more extensive use of ICT, as well as in vocational training to improve the skills of workers employed in the two sectors.

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[14]   As indicated in Figure 3.7, 'tourist attractiveness' is measured as the number of days visitors are present in the accommodation in the region in relation to population.

[15]   The National OP for Culture 2014-2020 (with a total budget of EUR 490.9 million and ERDF co-financing of EUR 368.2 million) is aimed at supporting projects relating to the cultural heritage and cultural enterprises in Campania, Puglia, Basilicata, Calabria and Sicilia. The Regional OP for Campania, which has a total allocation of EUR 996 million, also contributes to preserving and promoting the cultural heritage.

Preservation of cultural heritage and urban regeneration

The preservation of the cultural heritage very much involves the construction industry, which has seen a decline in value added in constant price terms of around a third over the crisis period, more than in the rest of Italy (Figure 3.8). This, as indicated above, has been partly responsible for the reduction in employment over the same period. The city of Naples along with a number of smaller towns and cities is very much part of the cultural heritage of the region and a major tourist attraction in its own right. Like other cultural sites, many of its historical buildings are badly in need of repair and renovation. Although a long-term development strategy cannot be built on construction, the industry has a major part to play in developing the sectors, which can underpin the long-term growth of the regional economy. It can, therefore, help to preserve the historical buildings and renew parts of urban areas which are in decay. It can improve transport and other infrastructure which is of low standard or missing altogether in order to increase accessibility and make the region a more attractive place to live and work as well as to visit.

Figure 3.8 / Value added of the construction sector in Campania, Mezzogiorno and Italy, 1995-2013 (2005=100)
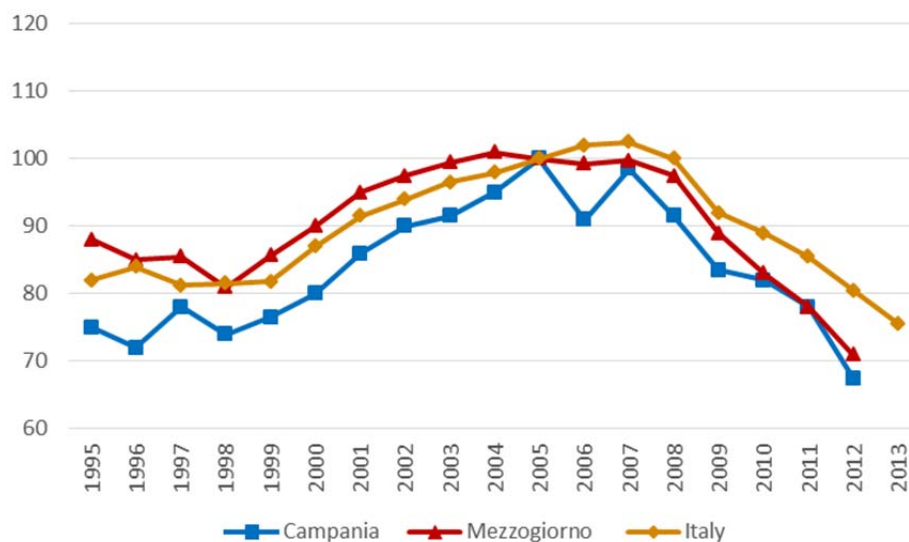
Source: Banca d'Italia (2014).

Moreover, in the shorter run, it can provide employment and help to create the jobs which are badly needed by young people in particular. These jobs are not only in the construction industry as such, but in the sectors which provide the inputs for the industry. As a recent study by the National Construction Association (ANCE, 2015) has pointed out, an expansion of construction has strong multiplier effects on the rest of the regional economy since almost 97% of the goods and services purchased are produced internally. An increase in construction activity, therefore, leads to an expansion in demand not only for building materials of various kinds (products produced by the non-metallic mineral industry, in particular) but also for engineering, architectural, legal and various other services.

Although a number of projects were carried out with the support of the ERDF in the 2007-2013 period – such as the renovation of the historical centre of Naples and the rehabilitation of a few brownfield sites, including the old heavy industrial area of Bagnoli to the west of the city and the docks on the eastern

side[16] – these remain to be completed and there are many other areas both in Naples and in other cities in the region in need of regeneration. In addition, much of the housing stock in the region needs renovating. According to the Istat census, some 28% of the 2.2 million housing units in Campania are in a poor state of repair and need renovating.

While some of the construction work can be financed through loans, especially the renovation of housing[17], the public sector inevitably needs to be involved in the infrastructure projects and the region faces serious financial constraints in carrying out a large-scale construction programme. The financial costs, however, need to be put into perspective. In particular, if managed properly, the gains are substantial, not only in terms of the increased number of tourists that might be attracted to the region and the income they generate, but also in terms of the increased attractiveness of the region as a place to live and work. Naples, because of its position and the natural beauty of the coastline and surrounding areas, has the potential to attract high-skilled professionals and to develop as a centre for business services, which could supplement culture and tourism as a major source of net export earnings.

A precondition for going down this development path, however, is that the constraints which have so far obstructed economic development – in particular, the oppressive presence of organised crime, the significant level of corruption and the low quality of governance – are tackled and alleviated. Since these are structural factors which date back for many decades, this is no easy matter and is likely to take some time to accomplish. Changing the perceptions of potential investors in the region that conditions have changed is likely to take even longer. The development path is also conditional on the proportion of young people with tertiary education increasing, which is not an issue of expanding enrolment rates but, as in the rest of Italy, increasing the relative number of those enrolling who successfully complete the programmes concerned. This has to do in part with the way the system operates and the quality of the teaching, both of which need to improve in order not only to raise completion rates but also to attract more people to live and study in the region.

Renewable resources

Almost half of the electricity consumed in Campania in 2015 was imported. This, however, is less than previously and the proportion is gradually diminishing. Moreover, the proportion produced by renewables is increasing rapidly and in 2014, the total capacity to produce electricity from renewables was more than that of fossil fuel plants (2,645 MW as against 2,000 MW).

Despite the growth of renewables, energy dependency on imports of both Campania and Italy as a whole remains high and this adversely affects business competitiveness. In 2014, Banca d'Italia (2014) estimated that the price paid by Italian enterprises for electricity was, on average, a third higher than that paid by European competitors[18]. Accordingly, there are potential gains from reducing energy

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[16] The ERDF co-financed four major projects in the 2007-2013 period: the renovation of the historical centre of Naples (EUR 75 million from the ERDF); Bagnoli (EUR 57 million from the ERDF); the port area of Naples East (EUR 155 million from the ERDF) and the Oltremare Exhibition area (EUR 49 million from ERDF). All of these projects are also included in the 2014-2020 programming period; http://www.grandiprogetti.invitalia.it/site/gp/home/tutti-i-progetti.html?tag=Riqualificazione%20urbana.

[17] A Jessica Fund was set up in the 2007-2103 period to do this.

[18] Almost half of this is due to the high tax imposed on energy in Italy, but it is a result of the mix of energy supply, which is more weighted towards oil and natural gas (Banca d'Italia, 2014).

dependency and Campania is well placed to do so because of the possibility of developing geothermal energy, which is available on a large scale.

A preliminary assessment as part of an AGIP-ENEL joint venture between 1977 and 1985 showed encouraging results at Campi Flegrei, an area some 15 km from Naples and the island of Ischia (a volcanic island in the north of the Bay of Naples around 30 km from the city). Exploitation was never started because of a change in political priorities and technical problems, but a recent study by the National Institute of Geophysics and Volcanology (INGV, 2012) confirmed the potential of the two areas. The minimum amount of electricity generation was estimated at 1.6 GW, equivalent to that produced by two medium-sized nuclear power plants (and twice the electricity produced by the geothermal area in Tuscany, the only site yet operational in Italy). The study also highlighted the fact that a large conurbation was located close to the area, making exploitation of the source extremely cost-effective[19].

The investment involved could potentially be financed to a significant extent with the support of the ESI Funds through loans or guarantees.

3.4. CONCLUSIONS

Growth potential in Campania is linked to the development of three areas in particular, culture and tourism, urban regeneration and the use of geothermal energy.

Campania possesses a rich natural and cultural heritage, which remains under-exploited to a significant extent. The development of the culture and tourism has the potential to generate net exports to underpin growth but also to create jobs, both for those with low education levels (e.g. in hotels and restaurants) and for those with higher levels (e.g. in conservation and restoration).

The renovation of historical city centres and the rehabilitation of brownfield sites also have the potential to stimulate tourism and to increase the attractiveness of the region for investors. Investment in urban regeneration would, in addition, lead to growth of the construction industry in the short to medium term, which would have positive spill-over effects on other sectors in the region and on employment in them.

The development of geothermal energy would equally add to employment and reduce the dependence of the region on energy as well as being a major step towards a low-carbon economy.

A precondition, however, is that the constraints on economic development – particularly from organised crime, corruption and the low quality of governance – are tackled and alleviated. There is equally a pressing need, as in the rest of Italy, to increase the proportion of young people with tertiary education to make the region more attractive to investors and to stimulate the growth of business services of various kinds.

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[19]   Carlino, S., Somma, R., Troise, C., De Natale, G. (2012), 'The geothermal exploration of Campanian volcanoes: Historical review and future development', *Renewable and Sustainable Energy Review* 16, pp. 1004-1030.

3.5. ANNEXES

Annex A: Economic development

Table 3.20 / External trade cif-fob by sector (EUR million)

Sectors	Export				Import	
	2000	%	2014	%	2000	2014
Agriculture, forestry and fishing products	232	3.0	398	4.2	520	1 090
Products for exploitation of minerals in mines and quarries	9	0.1	7	0.1	11	7
Food, beverage and tobacco	1 153	14.8	2 328	24.6	820	1 294
Textiles products	383	4.9	102	1.1	411	445
Clothing, apparel and footwear	822	10.6	1 147	12.1	343	1 281
Wood and paper products	253	3.2	281	3.0	287	333
Coke and refined petroleum products	9	0.1	31	0.3	325	518
Chemicals and chemical products	577	7.4	192	2.0	739	879
Pharmaceuticals, medicinal chemicals and botanical products	*	*	786	8.3	*	245
Rubber and plastic materials	299	3.8	403	4.3	133	274
Manufacture of other non-metallic mineral products	148	1.9	135	1.4	95	177
Manufacture of basic metals and metal products	306	3.9	790	8.4	848	2 219
Computers, electronic devices and optical devices	889	11.4	170	1.8	1 118	
Electrical equipment	**	**	432	4.6	**	331
Machinery and equipment n.e.c.	487	6.3	445	4.7	368	385
Transport products:	2 022	26.0	1 693	17.9	1 343	806
of which: motor vehicles, trailers and semi-tr.	-	-	328	3.5	-	500
ships and watercraft	-	-	115	1.2	-	8
railway locomotives and rolling stock	-	-	97	1.0	-	11
air and spacecraft and related mach.	-	-	1 147	12.1	-	240
Products of other manufacturing activities	143	1.8	142	1.5	182	264
Energy, waste management and remediation of contaminated sites	-	-	38	0.4	-	38
Products of other activities	56	0.7	62	0.7	8	31
Total	7 788	100	9 446	100	7 551	10 960

Note: High- and medium-high-tech industries are: 'Pharmaceuticals, medicinal chemicals and botanical products';
'Computers, electronic devices and optical devices'; 'Transport products (excluded ships and watercraft); 'Chemicals and
chemical products'; 'Electrical equipment'; 'Machinery and equipment n.e.c.'
* In 2000 data on 'Pharmaceuticals, medicinal chemicals and botanical products' was included under 'Chemicals and
chemical products'
** In 2000 data on 'Electrical equipment' was included under 'Computers, electronic devices and optical devices'.
Source: Banca d'Italia (2001, 2015), Istat.

ANNEX B: Governance and quality of institutions

Table 3.21 / Violent crimes in Southern Italian regions (per 100,000 inhabitants)

Regions	2010		2015	
	Murders	(of which for mafia)	Murders	(of which for mafia)
Calabria	3.0	1.2	1.9	0.2
Campania	**1.1**	**0.3**	**1.8**	**0.5**
Sardegna	1.0	0	1.1	0
Sicilia	1.2	0.2	1.0	0.1
Puglia	1.4	0.4	0.8	0.1
Abruzzo	0.6	0	0.5	0
Molise	0.9	0	0.3	0
Basilicata	0.9	0	0.2	0
Italy	**0.9**	**0.1**	**0.8**	**0.1**
North	0.6	0	0.5	0
Centre	0.7	0	0.6	0
Mezzogiorno	1.3	0.3	1.2	0.2

Source: Istat.

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4. Case study Norte

4.1. GENERAL CHARACTERISTICS, ECONOMIC DEVELOPMENT, MAIN STRENGTHS AND WEAKNESSES

General and demographic characteristics, geographic location

Main characteristics of Norte

Norte is a region in the north of Portugal with a densely populated urban coast in the Porto area offering the potential for agglomeration, while inland Norte is more rural. In recent years the population has declined as the economy has contracted and the working-age population have moved out of the region in search of employment opportunities.

Norte has suffered from depressed rates of economic and employment growth compared to much of the EU but productivity has continued to grow. The defining characteristics of the economy of Norte are the large manufacturing sector, dominated by low-technology textiles; but also the presence of a small high-tech sector associated with the motor industry and related industries. Developments in technology and increasing globalisation have impacted negatively on the competitiveness of both Norte's traditional and high-tech industries, exacerbated by the low volume and quality of education in Norte. While Norte's trade surplus is growing and diversifying away from Spain (likely to be the result of economic difficulties in the Spanish economy temepering demand for Portugesse exports) and towards the rest of the EU, a lack of productivity-enhancing investment[20] in high-tech industries has resulted in high-tech exports declining substantially particuarly in extra-EU exports. Such developments present challenges that must be addressed if the regions is to develop the high-tech industries most likely to benefit from technological change and provide future economic growth and employment opportunities[21].

Demographics and geography

The Norte region of Portugal is defined as the NUTS 2 region in the most northern part of Portugal. In comparison to Portugal as a whole, Norte has a relatively short stretch of coastline facing the Atlantic ocean, 143km of a total of 2,601km across Portugal as a whole. Norte borders Galicia in the north of Spain, with which the region has close economic and cultural links forming a cross-border Euroregion[22,23], with the aim to foster further development and cooperation.

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[20]   The Economic Crisis and Recovery in OECD Regions, 2013, available here:
   https://www.oecd.org/regional/ministerial/Monitoring-the-Crisis.pdf

[21]   Throughout this case study, a consistent and recent series of data is sometimes only available for the period post the financial crisis from 2008 up to the present. While this period may be considered exceptional, it remains representative of the long-term structural issues in the Norte economy.

[22]   Current activities resulting from the Euroregion grouping are discussed at the following webpage:
       https://portal.cor.europa.eu/egtc/CoRActivities/Pages/Galicia-Norte-de-Portugal.aspx

The population of Norte was estimated at 3.6 million people in 2015, 35% of the total population of Portugal. Norte has an age profile representative of Portugal as a whole and the EU, with 56% of the population aged 25-64. The metropolitan area of Porto, in Norte, is the second largest city in Portugal with a population of approximately 1.6 million people in its urban area, while the capital of Portugal, Lisbon, has a population of 2.7 million[24]. Norte is more densely populated than the rest of Portugal with a population density of 171 people per square kilometre in comparison to 131 people per square kilometre across Portugal as a whole. Furthermore, 75% of the population in the Norte region resides in predominantly urban areas broadly in line with the national average. The greatest population density in Norte is found along the coast and is centred on Porto[25].

Changes in population in Norte have broadly followed similar trends to Portugal with population growth in the early 2000s replaced with a decline thereafter (see Figure 4.1). The decline in population in Norte preceded the financial crisis in 2008, with a decline first recorded in 2007. Furthermore, Figure 4.2 demonstrates that the decline in population coincided with an increase in negative net migration, i.e. outward migration from both Portugal but especially Norte, which is likely to be linked to the poor economic growth within the region and country as people move abroad to find jobs.

**Figure 4.1 / Annual percentage change in population, Norte and Portugal, 2000-2013**
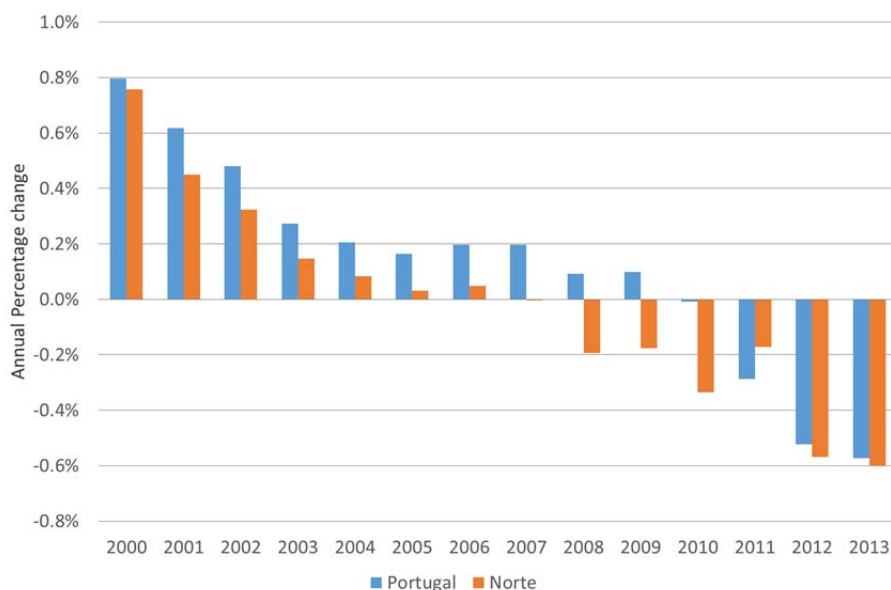
Source: Statistics Portugal and own calculations.

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23   The policy developments for the Norte-Galicia Euroregion are discussed in 'Strategies and Results of Business Cross-Border Cooperation in the Euroregion Galicia – Norte de Portugal', Lluis Valls (2006), available here:
      http://r-cube.ritsumei.ac.jp/bitstream/10367/3433/1/be44_6valls.pdf

24   Information available from Statistics Portugal here:
      https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&indOcorrCod=0008857&contexto=bd&selTab=tab2

25   See page 19 of the statistical yearbook for a map of population density:
      http://censos.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=156643035&att_display=n&att_download=y

Figure 4.2 / Crude net migration rate (in %) for Norte and Portugal, 1992-2013
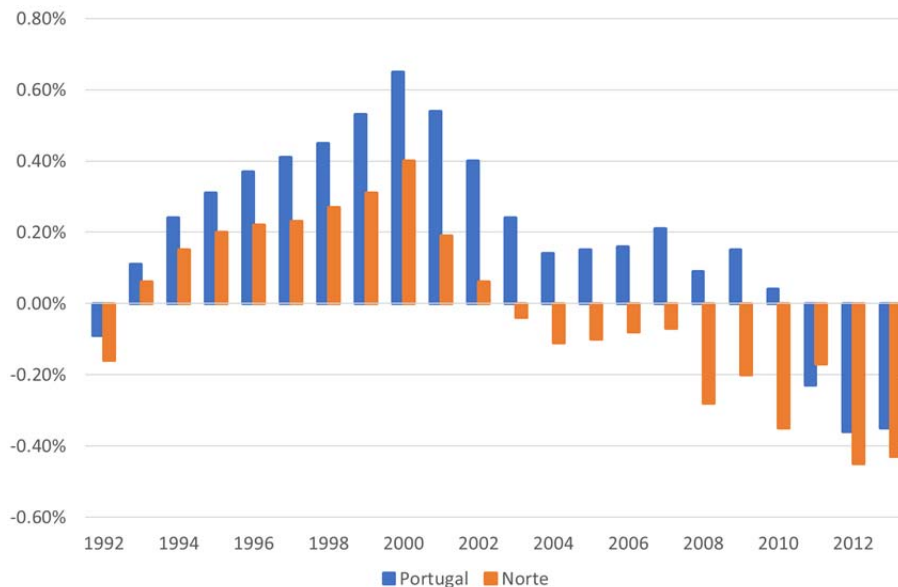
Source: Statistics Portugal.

Economic development

Economic profile and performance

The economic performance of Norte has diverged from that of the EU and to a lesser extent from that of Portugal. For instance, employment in Norte gradually declined through the early 2000s while employment expanded in the EU. A tentative recovery in employment growth in Norte began in the years before the financial crisis but failed to match the rate of growth in the EU. Following the financial crisis, the contraction in employment resumed. While Portugal as a whole also experienced the same broad trend as Norte, employment fell slightly more in Norte. Following the financial crisis, the trend of employment decline was exacerbated. While employment also fell in the EU, employment growth did not contract to the same extent, with the consequence that the gap in employment performance between the EU, on the one hand, and Norte and Portugal, on the other, increased further. The poor performance in employment growth terms coupled with poor resilience to economic shocks suggest that Norte and Portugal suffer from structural issues hindering employment growth relative to EU average performance. Nevertheless, there is at least some evidence of a nascent recovery in employment, with a return to growth in employment in Norte and Portugal in 2014.

GDP growth in Norte has been stronger than that seen in employment. GDP increased year-on-year in Norte from 2003 onwards, with growth more rapid than in Portugal and matching the EU in 2007, before contracting once again. However, GDP in Norte did not expand as much as in Portugal during the early 2000s, and at a rate far below that of the EU, suggesting an economic structure that is impeding growth relative to the EU average. The financial crisis in 2008 resulted in the contraction of the economy once again, with a decline in the rate of growth of GDP in Norte comparable to the EU in 2009. However, the EU returned to growth in 2010, while Norte and Portugal continued to contract. Norte proved more resilient to the economic shock posed by the financial crisis than Portugal with slightly smaller

contractions in GDP growth. Norte began to grow more rapidly in terms of overall GDP growth than Portugal by 2012.

Figure 4.3 / Employment indexed to 2000 for Norte, Portugal and the EU
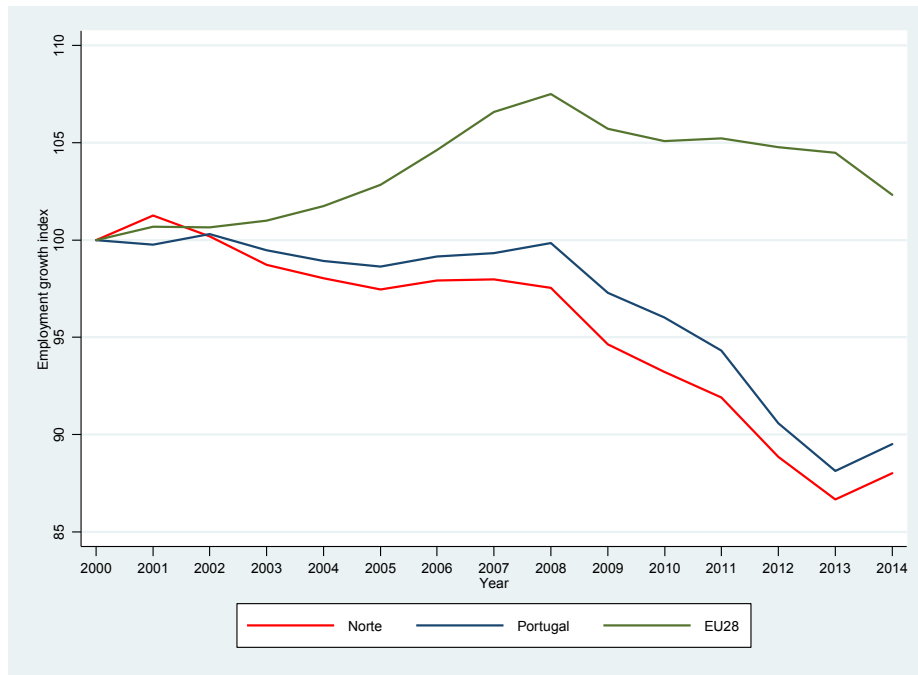
Source: Eurostat and own calculations.

Figure 4.4 / Employment growth rate for Norte, Portugal and the EU

Source: Eurostat and own calculations.

Figure 4.5 / GDP growth indexed to 2000 for Norte, Portugal and the EU


Source: Eurostat and own calculations.

Figure 4.6 / GDP growth for Norte, Portugal and the EU, in %

Source: Eurostat.

Productivity in Norte is lower than across Portugal as a whole, which is itself substantially lower than the EU average. The gap in productivity between Norte, Portugal and the EU has not altered substantially

over time, indicating that there remains a persistent structural gap in productivity performance. However, productivity in Norte and Portugal proved more resilient to the economic shock of the financial crisis in 2008. Productivity briefly contracted in the EU in 2009, the year after the financial crisis, while productivity in Norte and Portugal remained constant in 2009 and maintained this improvement relative to the EU thereafter. Such an absence of a contraction in productivity must not be misinterpreted as an improvement in productivity; rather it indicates a continuation of the previous trend, of employment fallings more rapidly than output.

**Figure 4.7 / Level of productivity for Norte, Portugal and the EU**
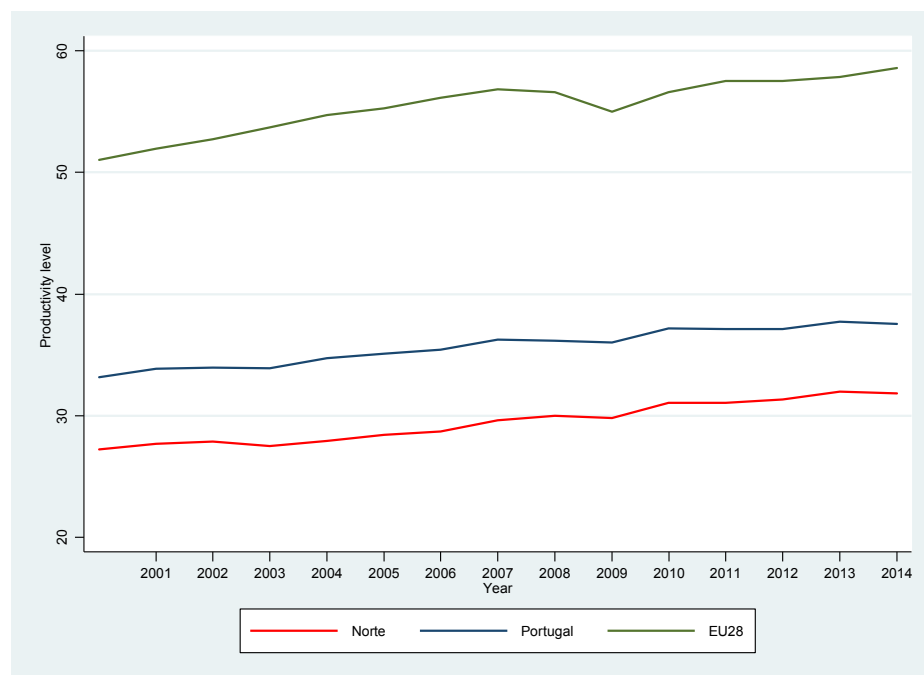

Source: Eurostat.

Sectoral decomposition

To understand the challenges faced by Norte's economy it must be noted that the industrial structure of Norte is heavily skewed towards manufacturing, with over a third of GVA related of manufacturing activities in comparison to just under a quarter across Portugal (see Figure 4.8). GVA in sectors such as agriculture & mining, wholesale and retail trade and non-market services are broadly consistent with the shares in the national economy. The consequence of this sectoral distribution is that other service sectors are a much smaller part of the economy in Norte, including many typically knowledge-intensive sectors such as information and communication activities and financial and business services which have higher productivity and potential for more rapid economic growth.

Furthermore, within the manufacturing sectors, traditional and low-tech sectors such as wearing appeal, textiles and related sub-sectors constitute the greatest shares of manufacturing GVA in Norte (see Figure 4.9). High-tech sectors such as motor vehicles, machinery and equipment, electrical equipment and related manufacturing sub-sector GVA shares are broadly comparable to Portugal as a whole, albeit as shares of a larger manufacturing sector.

Figure 4.8 / Sector share of GVA, Norte and Portugal, 2015
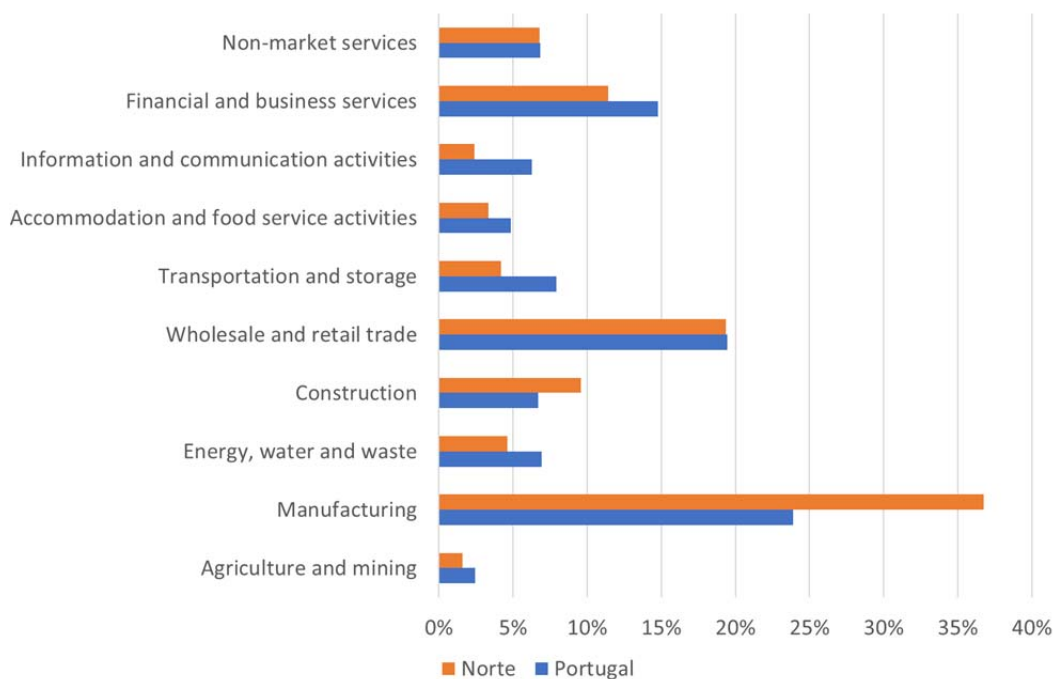
Source: Statistics Portugal and own calculations.

Figure 4.9 / Sub-sector share of manufacturing GVA, Norte and Portugal, 2013, top 15 manufacturing sub-sectors' shares
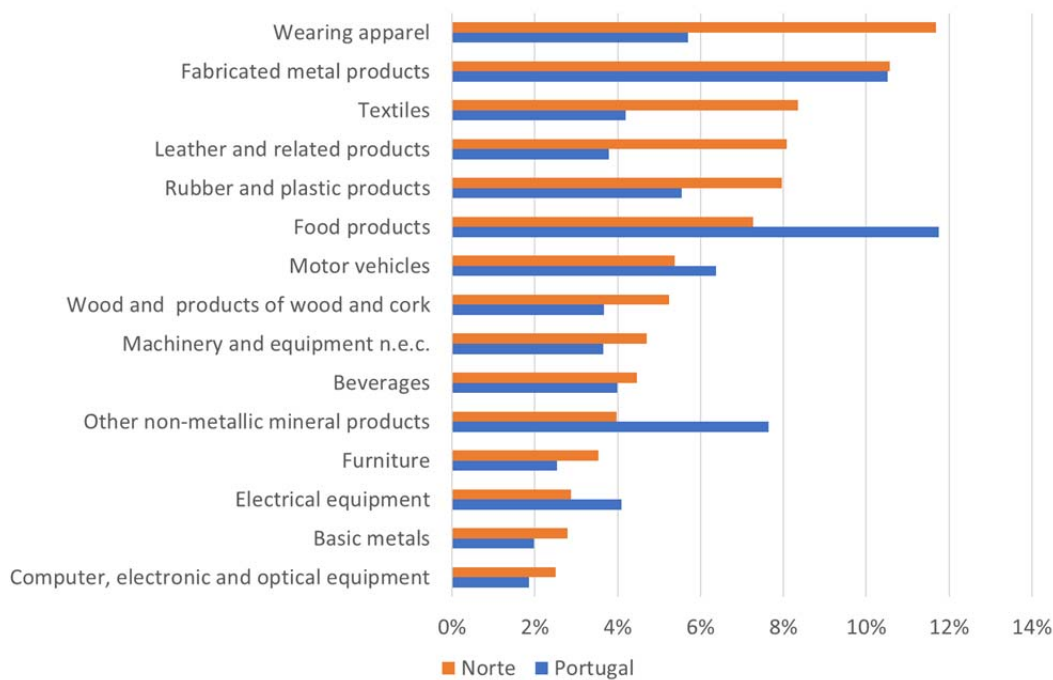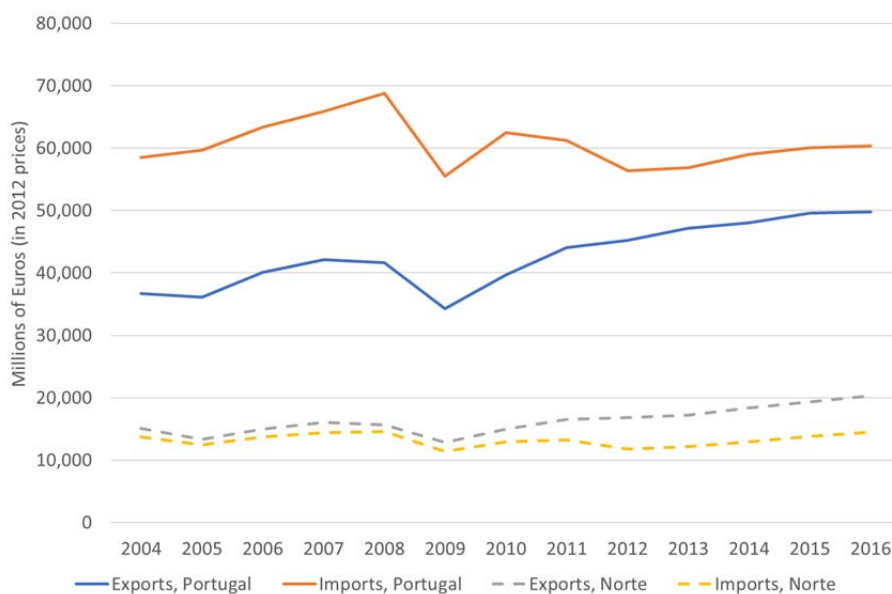

Source: Statistics Portugal and own calculations.

Trade competitiveness

Manufacturing is the dominant sector in Norte's economy but has experienced challenges in recent years. The expansion of the EU in 2004[26], 2007[27] and 2013[28], as well as increasing trade with the rest of the world, have increased the intensity of competition from producers with lower cost bases. Norte's manufacturing sector on the whole has maintained competitiveness, as evident from an increasing trade surplus for goods. However, high-tech sectors have experienced a loss of competitiveness as is reflected in the fall in the share of high-tech exports.

Norte has maintained a positive balance of trade for goods (i.e. exports have remained larger than imports), while Portugal has continued to run a substantial trade deficit for goods, although the gap between goods imports and exports has narrowed following the financial crisis. Similarly, Norte's small trade surplus for goods has grown larger following the financial crisis, suggesting some improvement in its relative competitiveness.

Figure 4.10 / Exports and imports to/from Portugal and Norte, 2004-2016


Source: Statistics Portugal and own calculations.

Norte's positive trade balance in goods widened following the financial crisis. Exports from Norte diversified away from Spain, likely as the result of the contraction in the Spanish economy, while imports from Spain have increased. Figure 4.11 shows that both Norte and Portugal have experienced a reduced share of exports destined for Spain. While the share of Portuguese imports that were sourced from Spain increased marginally over time, the share of Norte's imports that were from Spain increased much more. In contrast, the share of exports to Spain from both Portugal and Norte decreased by similar percentages.

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[26] EU enlargement in 2004 consisted of eight Central and Eastern European countries joining the EU; Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia, as well as Cyprus and Malta.

[27] In 2007, Romania and Bulgaria joined the EU.

[28] Croatia joined the EU in 2013.

Figure 4.11 / Percentage share of goods imports and exports from/to Spain
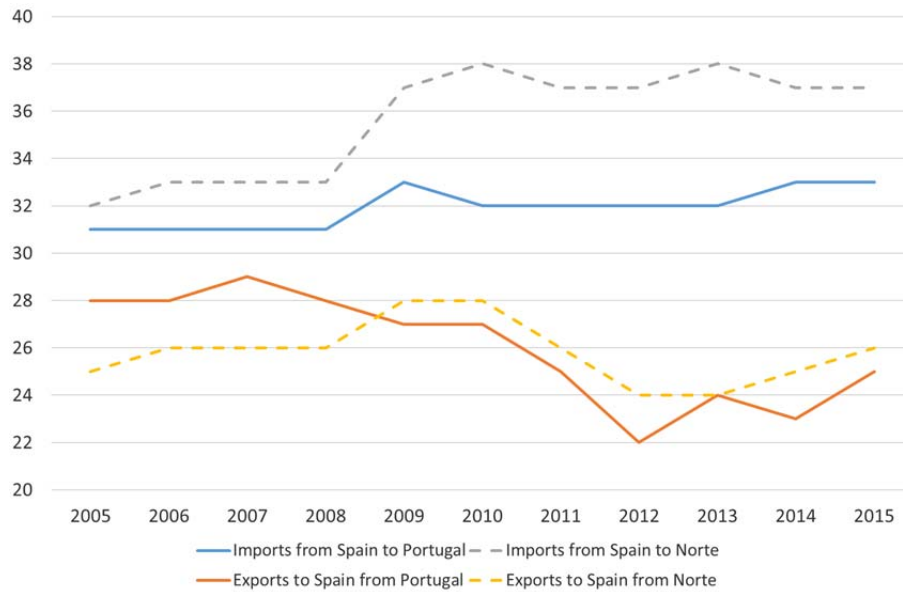
Source: Statistics Portugal.

Figure 4.12 shows that intra-EU export and import shares from/to Portugal have decreased over time, implying an increase in extra-EU exports and imports. In contrast, the intra-EU export share for Norte has fluctuated over time around 80%, while intra-EU imports have remained between 80% and 85% of total imports. This suggests that Norte has diversified its export markets, to reduce dependency on Spain as a destination market, with growth to other EU destinations. At the same time, Norte has become more reliant on imports from Spain.

Figure 4.12 / Percentage share of goods imports and exports from/to the EU
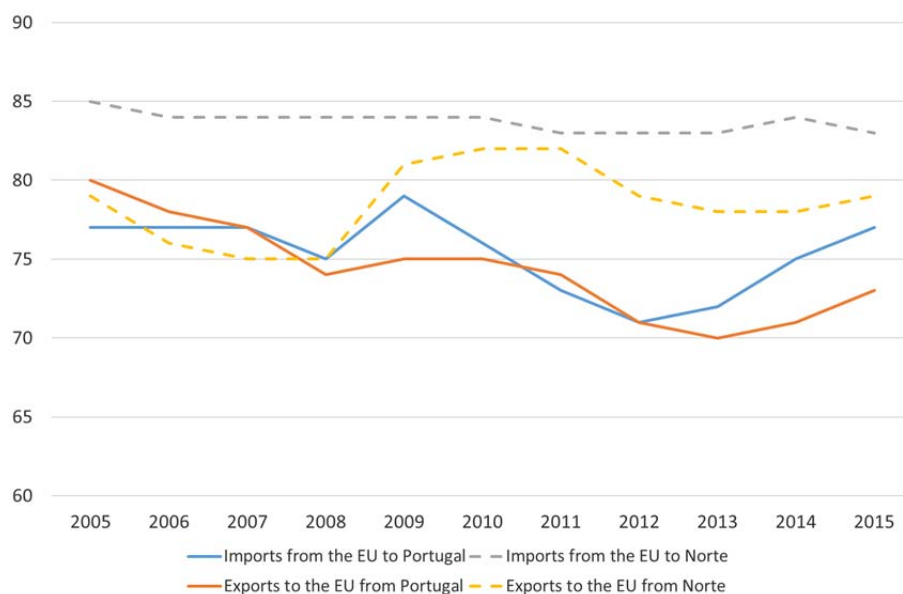
Source: Statistics Portugal.

High-tech goods exports are driven by technological developments which in turn depend on investment and a skilled labour force to remain competitive. The production of high-tech goods reflects the extent to which firms in Norte are deriving export performance from sectors likely to drive economic growth from technological development rather than simply cost competitiveness. Norte's growing trade balance surplus is indicative of improving competitiveness. However, Figure 4.13 reveals the extent to which exports of high-tech goods[29] have fallen dramatically following the financial crisis in Portugal, illustrating a loss of competitiveness driven by a failure to attract investment.

Figure 4.13 / Share of high-tech goods exports

Source: Statistics Portugal.

A breakdown of goods exports by products[30] showing the six largest exports (by value exported) from Norte is provided in Figure 4.14. The most valuable exports from Norte before the financial crisis included machinery, mechanical appliances and electrical equipment products. However, following the financial crisis, machinery, mechanical appliance and electrical equipment exports experienced a substantial slump which has not been subsequently rectified, suggesting that this is a structural change in the exporting capacity of the region. This product group includes high-tech goods which have been illustrated above in Figure 4.13.

The next largest exported product group is textiles. The textiles product group exceeds the machinery, mechanical appliance and electrical equipment group in the size of its exports for most of the period under examination. However, textiles are a low-tech product group with less potential for economic growth.

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[29]   Technical products of which the manufacturing involved a high intensity of R&D. It includes the following products: aerospace, armament, computers/office machines, scientific instruments, electrical machinery, non-electrical machinery, electronics/telecommunications, pharmaceuticals and chemicals.

[30]   These product groups broadly relate to industrial sectors as follows: the textiles product group is broadly consistent with the textiles industrial sector, footwear and other wearing apparel correspond to the wearing apparel industrial sector, machinery, mechanical appliances and electrical equipment correspond to machinery and electrical equipment sectors, vehicles, aircraft, vessels and transport equipment broadly correspond to the motor and transport equipment industrial sectors, plastics and rubber correspond to plastics and rubber industrial sector, base metals correspond to the basic metals industrial sector.

All the other largest product exports are comparable in the size of their goods exports and have continued to experience export growth broadly in line with one another and with the textiles product group. Among these product groups is the vehicles, aircraft, vessels and transport equipment group which is also a high-tech goods grouping.

Figure 4.14 / Most exported goods for Norte, 2005-2016
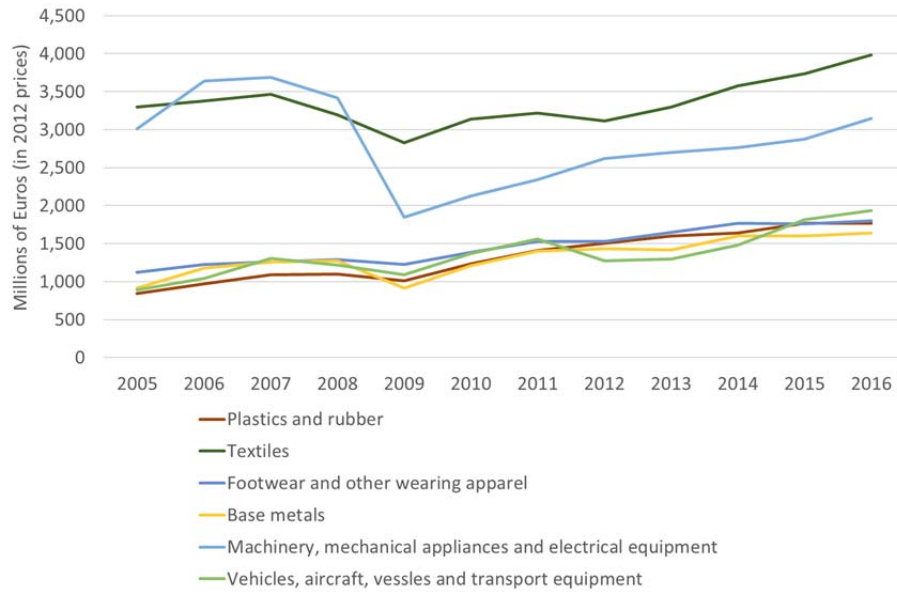
Source: Statistics Portugal and own calculations.

Figure 4.15 / Norte goods exports share by product relative to goods exports share for Portugal, extra-EU and intra-EU
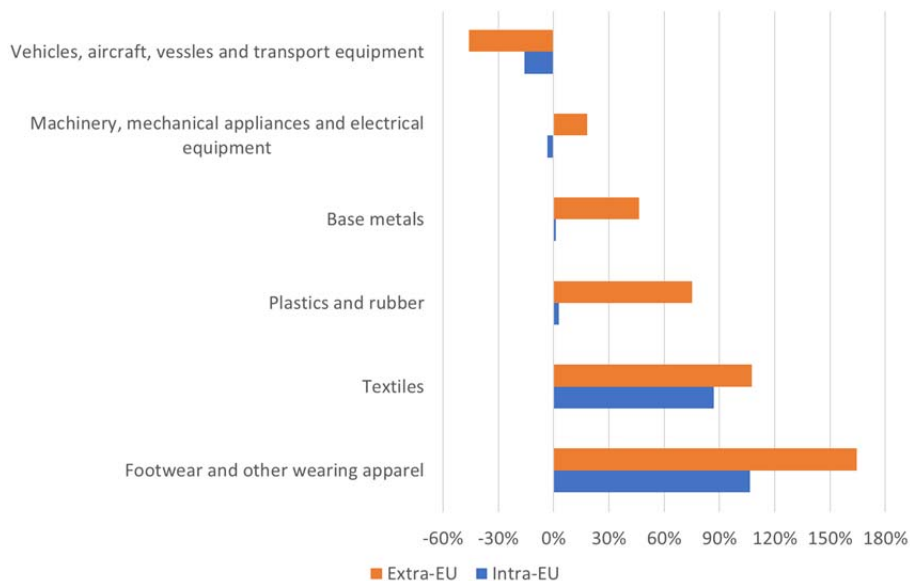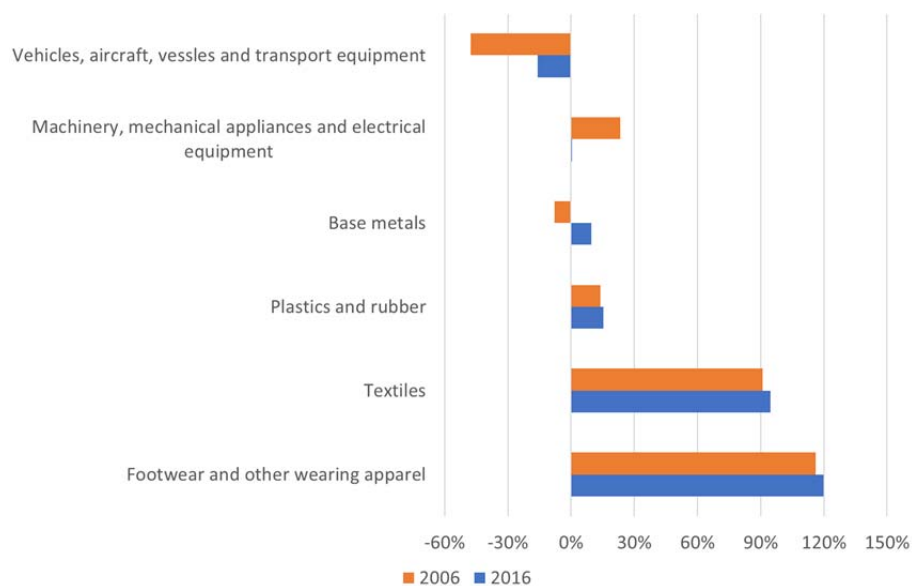

Source: Statistics Portugal and own calculations.

Figure 4.16 shows how the share of these goods exports for Norte compare relative to goods export shares for Portugal. It is clear that both the textiles and footwear and other wearing apparel goods exports are much more important to Norte's overall goods exports than in the rest of Portugal. Furthermore, goods exports of these products have become slightly more important since 2006. However, Norte's share of goods exports of machinery, mechanical appliances and electrical equipment has declined relative to the rest of Portugal since 2006. On the other hand, vehicles, aircraft and transport equipment goods exports have become larger shares of overall goods exports from Norte since 2006 but remain below the share of goods exports at the national level in 2016. Other goods exports have experienced fewer changes relative to the national average.

While Norte exports more of its goods to destinations within the EU than outside the EU, most of Norte's largest goods exports categories had a greater share of extra-EU exports than intra-EU exports relative to the national average in 2016. Figure 4.15 shows that in Norte only in vehicles, vessels and transport equipment did intra-EU export shares exceed extra-EU export shares but both are smaller than national average shares. This indicates that extra-EU trade in Norte is concentrated among Norte's largest exports, revealing the degree to which Norte's extra-EU trade competitiveness is derived from specialisation in key products.

Figure 4.17 demonstrates the extent to which growth in relatively low-technology exports such as textiles, footwear and other wearing apparel in Norte is driven by increased intra-EU exports rather than extra-EU exports. This is shown more visibly for high-technology goods exports of vehicles, aircraft, vessels, transport equipment, machinery, mechanical appliances and electrical equipment in Figure 4.18 which shows growing intra-EU trade while extra-EU trade declines.

Figure 4.16 / Norte goods exports share by product relative to goods exports share for Portugal, 2006 and 2016
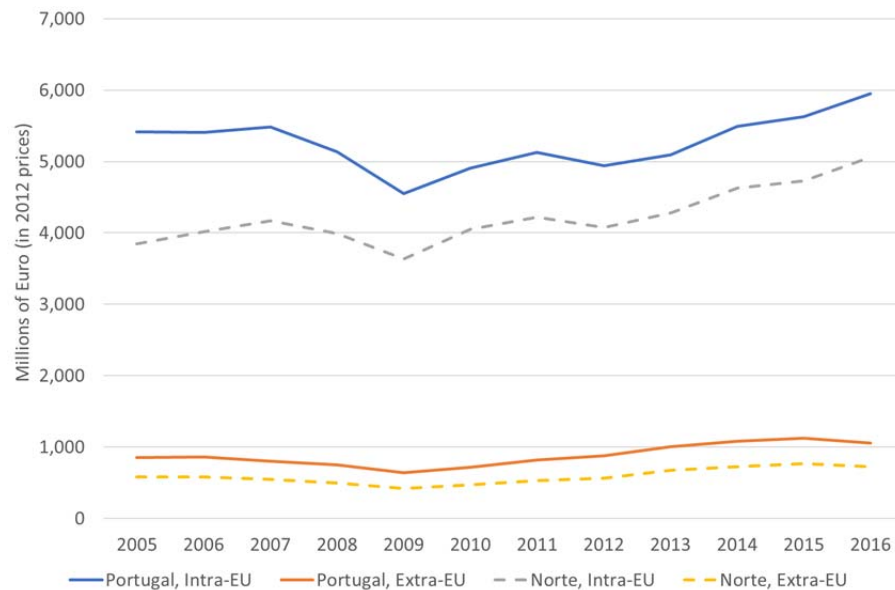

Source: Statistics Portugal and own calculations.

Prior to the financial crisis, high-technology extra-EU goods exports almost exceeded intra-EU goods exports from Norte, in contrast to the national average, which had a much smaller share of extra-EU

exports. This indicates a reorientation of goods exports towards intra-EU rather than extra-EU trade following the financial crisis, with the reorientation being more severe among high-technology exports, for which extra-EU exports have declined indicating of a loss of competitiveness.

Figure 4.17 / Textiles, footwear and other wearing apparel exports from Norte and Portugal to intra- and extra-EU, 2005-2016

Source: Statistics Portugal and own calculations.

Figure 4.18 / Machinery, mechanical appliances, electrical equipment, vehicles, aircraft vessels and transport equipment exports from Norte and Portugal to intra- and extra-EU, 2005-2016
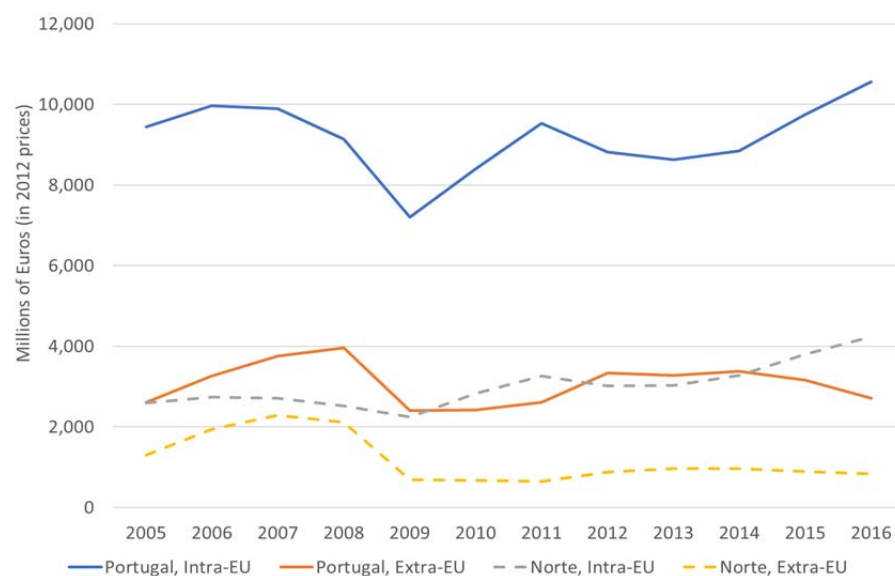

Source: Statistics Portugal and own calculations.

Labour market performance

The labour market in Norte and Portugal has experienced high and increasing rates of unemployment over time, presenting a key challenge to the economy of Norte. This is further evident in the unemployment rate presented in Figure 4.19, which illustrates a long and persistent increase in unemployment which was exacerbated following the financial crisis in 2008. Furthermore, unemployment rates in the early 2000s were low in Norte and a similar rate to the national average and far below the EU average. However, unemployment rates increased over time, with Norte exceeding the national average rate of unemployment by the mid-2000s and continuing to perform more poorly than the national average thereafter. While in recent years the unemployment rates in Norte and Portugal have fallen towards EU average rates, within the region the unemployment rate in both Norte and Portugal as a whole continues to exceed EU average. The disparity with EU rates of unemployment is indicative of Norte and Portugal's difficulty in recovering from economic shocks such as the financial crisis.

Figure 4.19 / Unemployment rates in Norte, Portugal and the EU
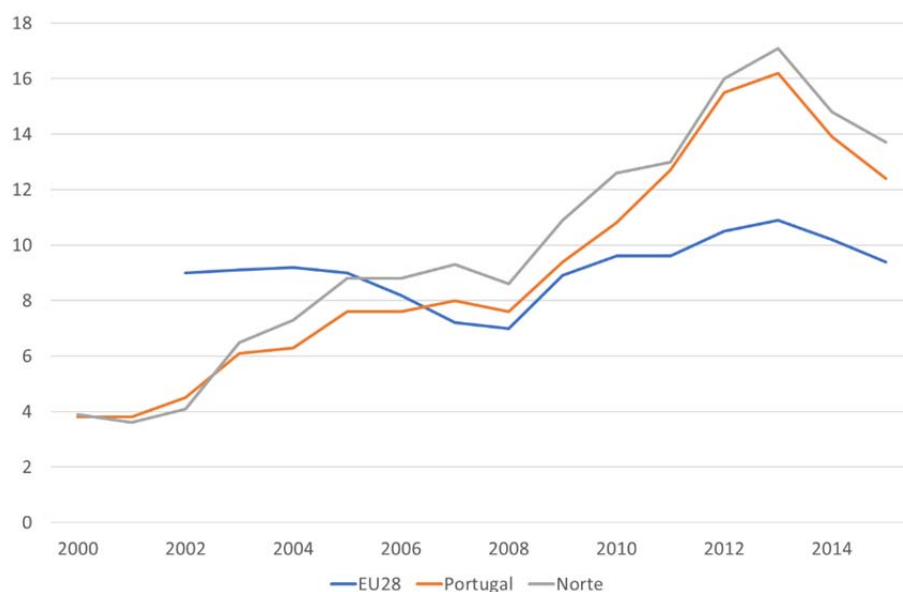
Source: Eurostat.

While exports of textiles, footwear and other wearing apparel continue to increase, employment in the textiles and wearing apparel industries has declined over time (as can be seen in Figure 4.20). In contrast, employment in high-tech industries such as motor vehicles, trailers and semi-trailers, machinery and equipment and transport equipment has either increased or remained at existing levels. The high-tech sectors are smaller in absolute terms than the low-tech sectors yet they have greater potential to drive economic and employment growth in the future through benefiting from technological development and likely growing consumer demand for the technology-driven value added of these sectors.

Figure 4.20 / Employment by key sectors, Norte
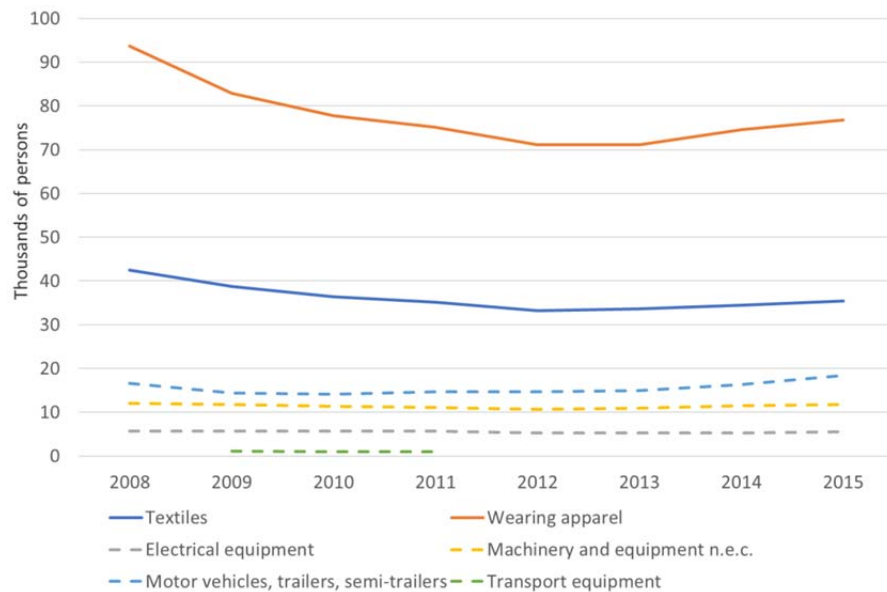
Source: Statistics Portugal.

Summary

Norte is a region in the north of Portugal with economic and cultural connections to Galicia and a densely populated urban coast around its largest city, Porto, while the interior is more rural. The region faces multiple but related challenges to its economic performance. The key characteristics of the economy in Norte include:

› Depressed rates of economic and employment growth compared to the rest of the EU, suggesting structural problems in the Norte and Portuguese economies

› A gap in productivity compared to the national average and to a greater extent with the EU, despite experiencing productivity growth; this is further indication of structural issues

› A declining population, including working-age emigration, driven by poor labour market opportunities

› A sectoral structure including a large manufacturing sector, dominated by low-technology textiles, but also with a small high-tech sector centred around the motor vehicle industry and associated value chains

› Strong trade performance, driven by traditional low-tech industries but with declining high-tech exports, particularly to extra-EU destinations

› Declining levels of employment in traditional low-tech manufacturing industries

Such challenges must be addressed if Norte is to develop the high-tech industries most likely to benefit from technological change and provide future economic growth and employment opportunities. In the next section the causes of these developments are explained and discussed.

4.2. CAUSES OF DEVELOPMENTS

Educational attainment and the quality of educational institutions

The quantity and quality of human capital (in terms of the availability of a suitably skilled workforce) is a key determinant of economic performance (influencing investment, productivity and competitiveness). Human capital is particularly relevant to high-tech manufacturing (and also knowledge-intensive business services), which derive their growth from technological developments driven by investments complemented by human capital[31]. Human capital in Norte is hindered by lagging behind the rest of Portugal and the EU in terms of both the level of educational attainment and the quality of institutions. The extent of human capital is lower in Norte as measured by the relatively low number of people in the working-age population with tertiary qualifications, while the quality of education is hindered by the relatively low quality of existing institutions, and also the lack of a sufficient number of universities to provide for both increased educational attainment and research collaboration between universities and with industry. However, the lack of tertiary qualifications and quality of educational institutions is also partly attributable to a lack of demand for such skills from firms in an industrial structure which is focused on low-tech and generally low-skilled manufacturing. Furthermore, research output from universities play a key role in driving technological development, and while research output in Norte is relatively good in national terms, the quality of research output lags behind compared to other European and international comparators.

Figure 4.21 / Share of population aged 25-64 attaining tertiary education
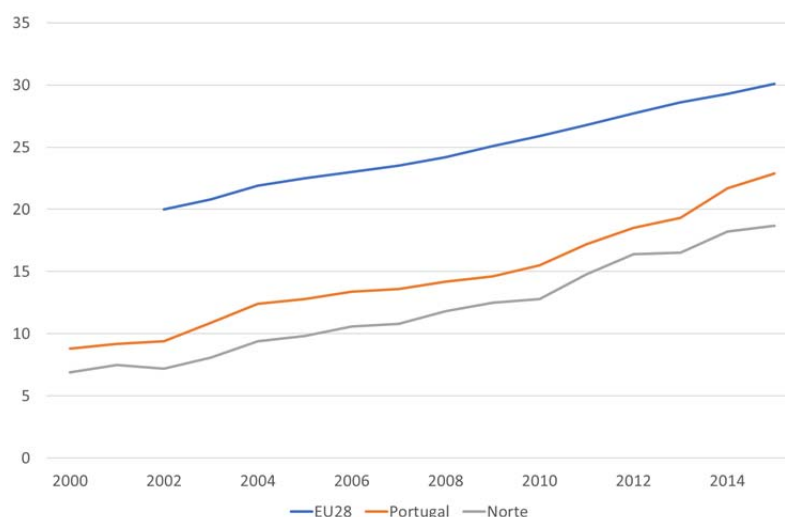
Source: Statistics Portugal.

Norte's loss of competitiveness in high-tech goods exports is partly explained by the poor state of human capital, demonstrated by the disparity in the proportion of the population with tertiary qualifications between national and EU averages in Figure 4.21. While the share of the population with a tertiary level of education is increasing in Norte, the gap with the rest of Portugal has not narrowed. In fact, while

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[31] 'OECD Territorial Review of Portugal' (Mario Pezzini, Soo-Jin Kim) makes a similar case for the importance of education driving competitiveness as a way of tackling unemployment, see here:
    http://www.qca.pt/portoconference/Downloads/Presentations/06_MPezzini_SooJinKim.pdf

Portugal has made some progress in narrowing the gap in tertiary level education with the rest of the EU in recent years, Norte has not achieved the same progress.

Another factor which affects the quality of human capital is the quality of institutions which deliver tertiary education in Norte. For instance, Norte is home to the top-ranked university in Portugal, the University of Porto. However, the University of Porto is only ranked 323rd in the world for quality of institution[3233]. Furthermore, Lisbon is home to two universities, the University of Lisbon and the Universidade Nova de Lisbon, which are ranked 330th and 366th respectively; but these two universities together provide much greater opportunity for the attainment of higher education and collaboration with industry on research and development. Another measure of assessing universities is by the quality of their research output which is of relevance to the production of research and development as distinct from increasing levels of human capital. The University of Porto ranks better at 200th globally with respect to research citations, with 54.4 citations per member of faculty in comparison to 40.8 for the University of Lisbon (ranked 297th) and 21.4 for the Universidade Nova de Lisbon (ranked 498th). The number of citations give an indication of the quality of the research output with the potential for application by industry but while the University of Porto in Norte ranks well nationally, it performs less well globally. Furthermore, the Lisbon area is served by two globally ranked universities rather than one in Norte, which increases the opportunity for collaboration both between these universities and also the capacity to collaborate with industry on research and development.

Industry and firm structure

Industrial and firm structure are key factors in understanding the competitiveness of Norte. While Norte has a large manufacturing sector, it focuses on low-technology sectors. Low-tech manufacturing has less potential for economic and employment growth driven by consumer demand for new or improved technologies, but can benefit from technological diffusion and application from high-tech sectors – for example, efficiency gains in textiles production resulting from the application of improved information technology infrastructure. The consequence for Norte is that often improvements in productivity in low-tech manufacturing are driven by efficiency and loss of employment rather than a growing market for value added products as is the case for the textiles industry. Linked to this is the role of high-tech firms in delivering new products and the role of entrepreneurship as a source of innovation, in which Norte tends to lag behind the national average. Finally, firm size plays a role in achieving economies of scale in order to compete in international markets, with a lack of large firms in Norte hindering the competitiveness of firms in the global marketplace. However, firm size is at least partially linked to sectoral structure as key sectors such as the textiles industry tend to be over-represented in terms of smaller firms[34].

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[32]   See here for the university rankings:
https://www.topuniversities.com/university-rankings/world-university-rankings/2016

[33]   The overall university ranking is a broad measure encompassing academic reputation, employer reputation, student to faculty ratio, citations per faculty, international faculty ratio and international student ratio. Further details of the methodology including weightings are discussed at the following webpage:
https://www.topuniversities.com/qs-world-university-rankings/methodology

[34]   The following discussion of the structural characteristics of the textiles industry from Eurostat is informative:
http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Textile,_clothing,_leather_and_shoe_production_statistics_-_NACE_Rev._1.1#Structural_profile

Despite the large share of manufacturing in Norte, the share of low-technology manufacturing[35] in Norte is higher than average in Portugal (see Figure 4.22). Furthermore, the services sector in Norte has a lower share of high-technology knowledge-intensive services[36] than Portugal as a whole. Technology and knowledge intensity are drivers of economic growth at the technological frontier in both manufacturing and services respectively and thus underrepresentation in sectors indicates structural economic difficulties in adapting to and benefiting from technological change.

Figure 4.22 / Shares of low-technology manufacturing and high-technology knowledge-intensive services, Portugal and Norte, 2013
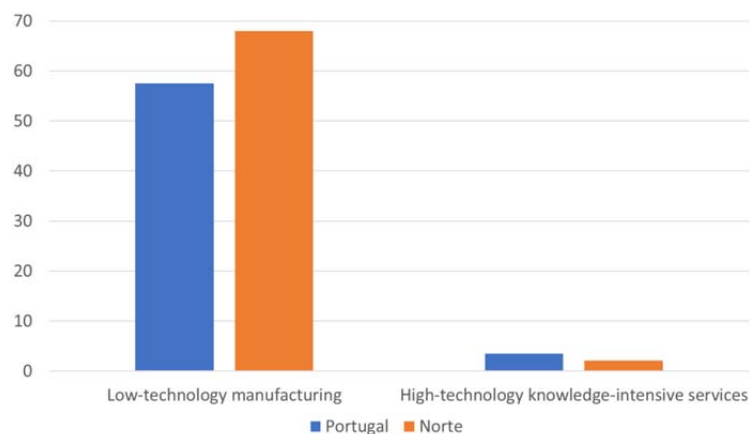
Source: Statistics Portugal.

Figure 4.23 / Share of persons employed by firm size class, Norte relative to Portugal, 2008 and 2015
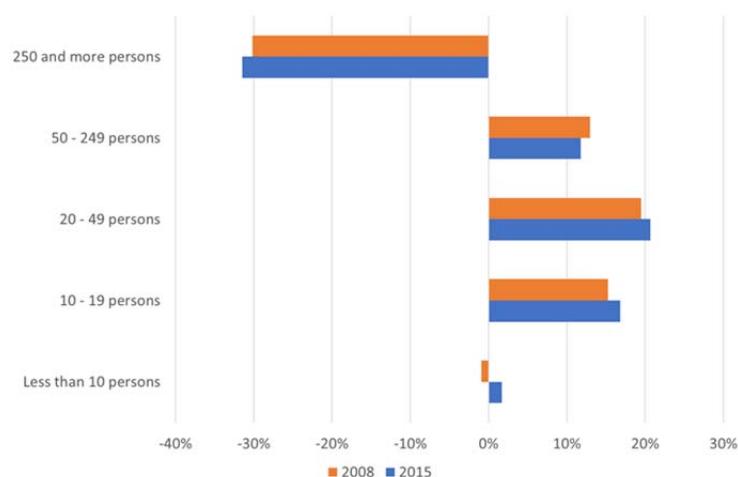
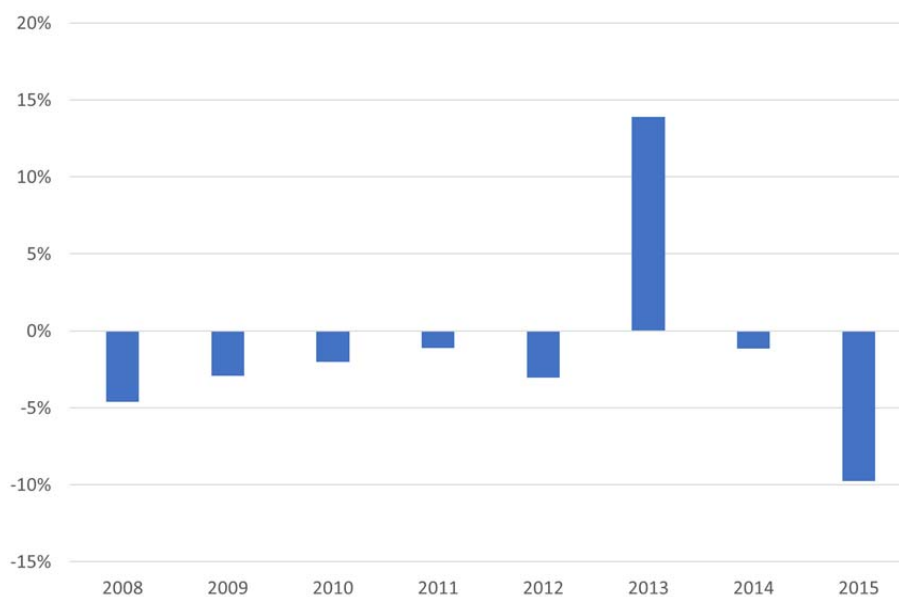
Source: Statistics Portugal and own calculations.

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[35] Low technology is defined as persons employed in activities corresponding to NACE Rev. 2, codes 10, 11, 12, 13, 14, 15, 16, 17, 31, 181, 321, 322, 323, 324 and 329 / Persons employed in manufacturing industries (NACE Rev. 2, Section C)]*100.

[36] High-technology knowledge-intensive services is defined as persons employed in activities corresponding to NACE Rev. 2, codes 59, 60, 61, 62, 63 and 72/ Persons employed in services (NACE Rev. 2, codes G to S, excluding codes K and O)]*100.

Another aspect of the challenges facing the competitiveness of Norte's firms is the small size of firms in Norte likely due to insufficient levels of investment for firms to grow which poses a challenge to achieving scale economies and competing internationally. Figure 4.23 shows that smaller employers employ more people than the national average in Norte. For instance, small and medium enterprises employ a greater share of people than large firms with more than 250 to the extent that the employment share of large firms is approximately 30% less than the national average. Furthermore, it seems that smaller firms employ relatively more people in Norte than the national average in 2015 compared to 2008.

A high rate of firm births indicates a high level of entrepreneurship with the potential to drive innovation and economic growth. However, a high firm birth rate may also be driven by the necessity to find work as a consequence of high unemployment. In Norte, firm birth rates have typically been below the national average (see Figure 4.24), suggesting poor levels of entrepreneurship.

**Figure 4.24 / Firm birth rate in Norte relative to Portugal, 2008-2015**

Source: Statistics Portugal and own calculations.

Innovation, investment and their effect on productivity performance

Innovation and investment are key drivers of economic growth and productivity. Innovation offers firms (including new firms) a means of both developing new demand for their products and also a method of competing with the products of other firms. Linked to this is the role of investment, augmented by the extent and quality of human capital discussed in previous sections. Norte lags behind the national average in terms of the share of firms undertaking innovation, which is in line with lower levels and quality of human capital (as discussed above), although total expenditure on research and development exceeds the national average. However, without a sufficiently skilled labour force, it is difficult to attract investment, reflected in low rates of investment in Norte. As a consequence, the industrial structural of Norte is orientated towards low productivity sectors and high-tech sectors are poorly represented while low levels of investment are likely to limit the rate at which firms can grow, and therefore limit their ability

to harness economies of scale. Given that future productivity growth within the EU is likely to be driven by high-tech sectors, this represents a significant barrier to the future prospects of Norte. Higher education institutes, the state and private non-profit institutions are large investors in research and development activities, offering the potential for collaboration with private enterprises or the development of new enterprises. However, in Norte, both state and private non-profit institutions lag behind the national average in terms of investment in research and development. Finally, expenditure on research and development in Norte appears ineffective at driving productivity growth in the short and medium term, as this continues to decline amongst high-tech sectors.

Figure 4.25 / Share of firms undertaking innovative activities in Norte relative to the average for Portugal, 2010-2012
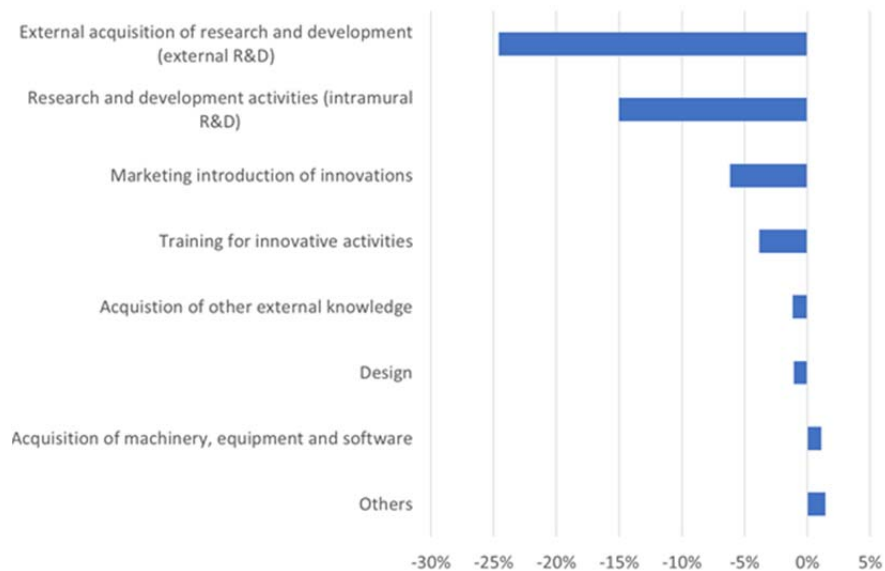
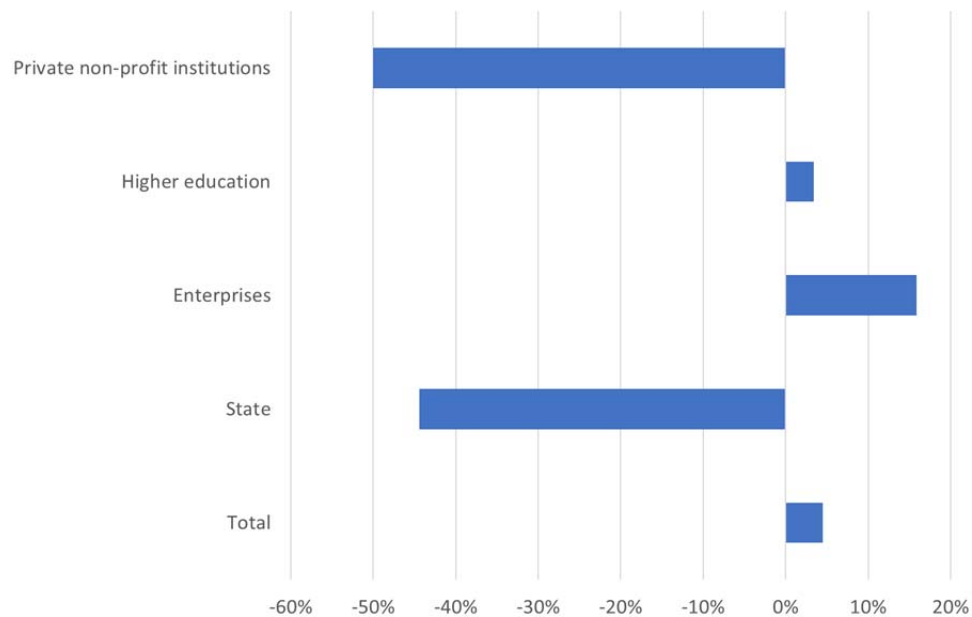Source: Statistics Portugal and own calculations.

Figure 4.25 shows that most firms in Norte fall behind almost all measures of innovative activities undertaken by enterprises except the acquisition of machinery, equipment and software and 'other' innovative activities when compared to Portugal. Furthermore, both external and intramural R&D lags behind the national average by a substantial amount.

Investment in research and development from enterprises may also be complemented through investment from higher education, the state and private non-profit enterprises either directly through collaboration or indirectly through building upon other research. Higher education institutions, in particular, are an important source of research and development although these institutions often do not commercialise their research in the market, leaving open the possibility of collaboration with private enterprises. Gross expenditure on research and development (GERD) in Norte is mainly provided by both private enterprises and higher education institutions. Figure 4.26 illustrates that the share of state GERD is only 4% in Norte.

Furthermore, Figure 4.26 demonstrates that Norte spends more than average on GERD relative to Portugal when the size of its economy is considered but primarily through private enterprises which, when considered with Figure 4.25, would seem to imply that a small share of firms are investing a lot in

GERD in Norte. Both state and private non-profit institutions spend almost half as much as the national average on GERD, indicating a large degree of underinvestment by government on GERD both directly but also indirectly through the funding of private non-profit research institutes.

Figure 4.26 / Gross expenditure on research and development as a share of GDP in Norte relative to Portugal, 2013
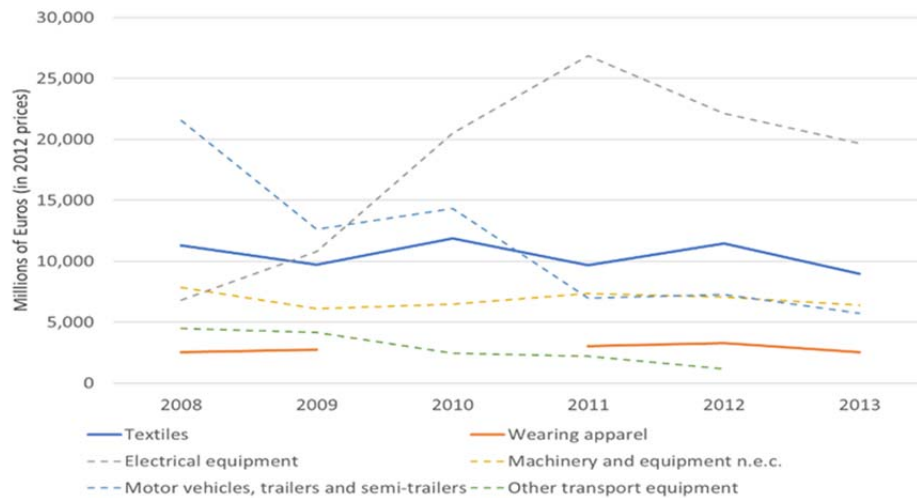

Source: Statistics Portugal and own calculations.

The evolution of GERD by sector over time demonstrates the extent to which GERD has developed in both high-tech and low-tech sectors. Investigating the evolution of GERD for key industries shows GERD has remained relatively constant over time for low-tech industries such as textiles and wearing apparel while the picture for key high-tech industries is more mixed with a slight downward trend overall (see Figure 4.27). The trend for high-tech sectors indicates a lack of investment in the sectors which depend most on GERD investments for economic growth. GERD investment has increased over time for electrical equipment but decreased for motor vehicles, trailers and semi-trailers and also other transport equipment while machinery and equipment n.e.c. has shown little change. High-tech industries are most likely to generate economic growth from investment in GERD and the mixed development in GERD for key high-tech industries has negative implications for both the competitiveness of such as industries as well as the potential for these industries to benefit from technological developments.

In contrast to GERD, the investment rate[37] for key sectors in Norte illustrates that the key high-tech manufacturing sectors such as the electrical equipment, machinery and equipment n.e.c., motor vehicles, trailers and semi-trailers and other transport equipment sectors all experienced dramatically lower investment rates since the financial crisis in 2008 and likely limit the potential for firms in these industries to grow and achieve economies of scale. In contrast, the investment rate in the low-tech textiles and wearing apparel increased over the period 2008 to 2015 (see Figure 4.28).
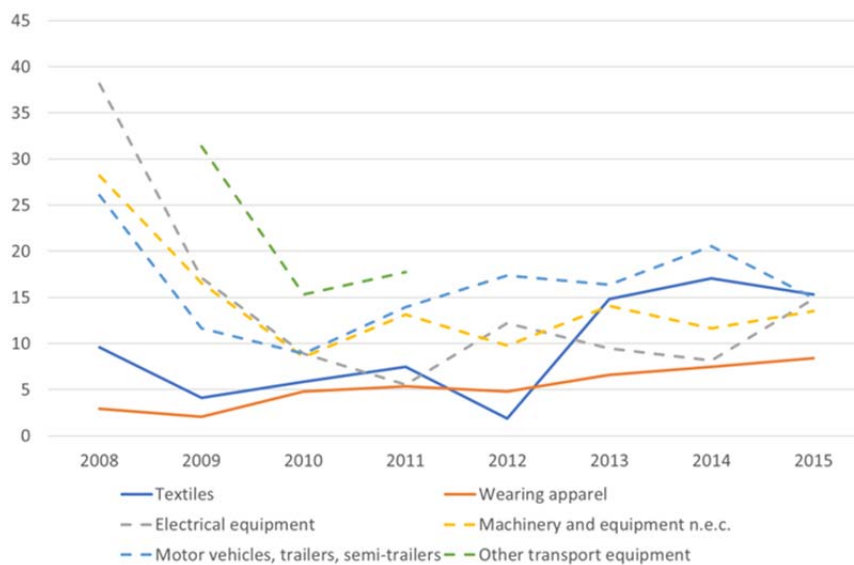
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[37]   The investment rate is defined as the share of gross fixed capital formation in gross value added.

Figure 4.27 / Gross expenditure on research and development in Norte by industry, 2008-2013

Source: Statistics Portugal and own calculations.

**Figure 4.28 / Investment rate for key sectors in Norte, 2008-2015**

Source: Statistics Portugal.

The consequence of lower investment in high-tech sectors can be seen in the data for labour productivity in Norte in Figure 4.29. While productivity in the textiles and wearing apparel sectors has continued to increase along with investment rates[38], productivity in the high-tech sectors have begun to decline. This is especially the case in the electrical equipment sector, which has experienced the largest decline in the investment rate and also productivity. In contrast, the motor vehicles sector (which consists of around 5% of manufacturing, but is underrepresented in Norte relative to the national average) has experienced some growth in productivity as the investment rate recovered, indicating the

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[38]   A similar conclusion is found in 'NAG, Norte, Abruzzo, Galicia. A Benchmarking Exercise' (A. Campino, J. Monteiro and D. Rubini) (2000) and is available here: http://in3.dem.ist.utl.pt/laboratories/pdf/5_2.pdf

potential for further growth in the sector. However, it is also apparent that investment in GERD does not seem to affect productivity performance, suggesting investment in GERD is ineffective at driving productivity growth in Norte at least in the medium to short term.

Figure 4.29 / Labour productivity in Norte for key sectors, 2008-2015
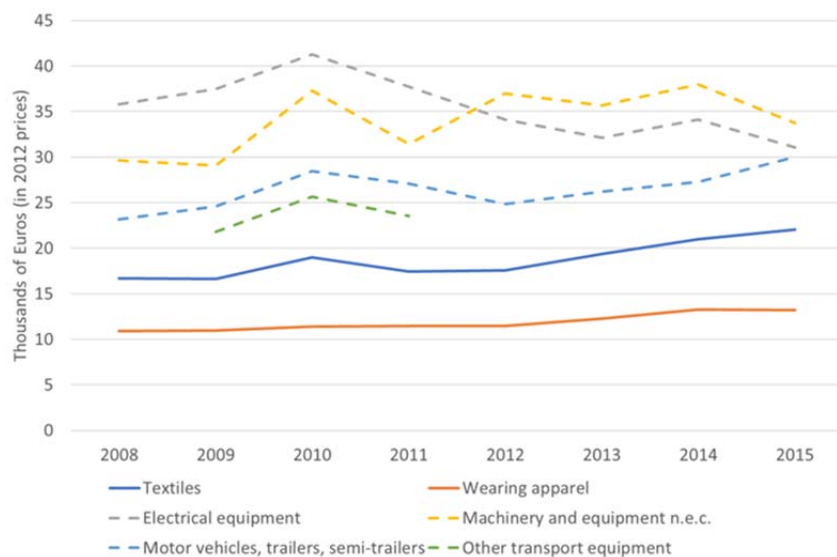
Source: Statistics Portugal and own calculations.

Governance

Governance is a key factor behind the formulation and delivery of effective government policy, which can support economic development and growth. Furthermore, the quality of regional governance is associated with effective and efficient use of public expenditure (including EU funding), although political decentralisation is not found to be associated with the quality of governance[39]. Norte is a region which has poor-quality governance both within a Portuguese and a European context. The consequence of poorer regional governance in Norte is a lack of efficiency and effectiveness in delivering regional policy to foster economic growth.

Governance in Portugal is largely centralised, with the exception of the autonomous overseas regions of Azores and Madeira. Responsibility for regional development is assigned to members of the central government although regional administrations also exist. In Norte, the Norte Regional Coordination and Development Commission is responsible for coordinating regional planning and development and supporting local government and intermunicipal associations as well as management of EU regional development funding[40].

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[39] The following study presents a measure of regional governance and finds that regions which perform better on this measure make more efficient and effective use of EU regional funds while evidence was not found to support the hypothesis that greater decentralisation is correlated with better governance.
http://www.qog.pol.gu.se/digitalAssets/1446/1446579_regional-studies-article.pdf

[40] Further information is available here: https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/organisation/norte-regional-coordination-and-development-commission-ccdr-n

A measure of regional governance encompassing factors relating to the rule of law, government effectiveness, voice and accountability and corruption is available in the Regional Quality of Governance Index[41]. This index measure[42] has a mean of zero for the EU-28 average quality of governance such that countries and regions which have better than average governance achieve values greater than zero whereas values below zero indicate a regional quality of governance below the EU average. The regional quality of governance index for 2013 shows that Norte exhibits the poorest governance performance of any region in Portugal, with an index measure of -0.12, below the EU average, while the national average for Portugal is 0.053 (above the EU average).

This suggests that a lack of effective governance in Norte hinders economic performance, including in the efficient and effective use of EU regional development funding. While much governance in Portugal is centralised, the more effective governance at the national level is hindered by poorer regional governance in Norte itself.

4.3. CONCLUSIONS AND POLICY RECOMMENDATIONS

Norte has derived its economic development from the growth of a large low-technology manufacturing sector. While manufacturing remains the main component of the economy in Norte, technological change and globalisation have presented challenges to Norte's manufacturing sector. Manufacturing in Norte must make the transition from an employer of traditional low-tech industries such as textiles and footwear to an employer of growing high-tech industries such as the motor vehicle, electrical equipment, machinery and other transport equipment industries to continue to provide employment growth and reduce the high levels of unemployment as well as outward migration currently experienced in Norte.

Low-tech industries in Norte have continued to increase productivity and exports even with the challenges of increased competition from EU enlargement and growing global trade but the potential for economic growth and employment opportunities are limited for low-tech industries as productivity gains have come at the cost of losses in employment, implying that productivity in these industries is predominantly derived from efficiency rather than increasing the value added of the final output. In contrast, employment in high-tech industries has either seen little change or growth in employment with more modest improvements in productivity. Norte's trade surplus demonstrates good trade performance especially in relation to the national trade figures which record a trade deficit. However, the trade surplus is largely driven by intra-EU trade while extra-EU trade has not changed very much or is declining in the case of the high-tech industries. The poorer performance for extra-EU trade is likely a reflection of greater competition intensity in the global marketplace with productivity growth in high-tech industries in Norte insufficient to compete effectively particularly since the financial crisis. Efforts to increase productivity through investment in education and GERD would improve the productivity and competitiveness of extra-EU high-tech industries in Norte.

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[41] Charron, N., Dijkstra, L. and Lapuente, V. (2015), 'Mapping the Regional Divide in Europe: A Measure for Assessing Quality of Government in 206 European Regions', *Social Indicators Research*, 122(2), pp. 315-346. The data is available here: https://nicholascharron.wordpress.com/european-quality-of-government-index-eqi/

[42] The index is constructed from assigning scores to survey questions, normalising these scores to a common range of values via standardisation and then performing a principal component factor analysis to investigate key independent factors according to the OECD's Handbook on Constructing Composite Indicators available here: http://www.oecd.org/els/soc/handbookonconstructingcompositeindicatorsmethodologyanduserguide.htm

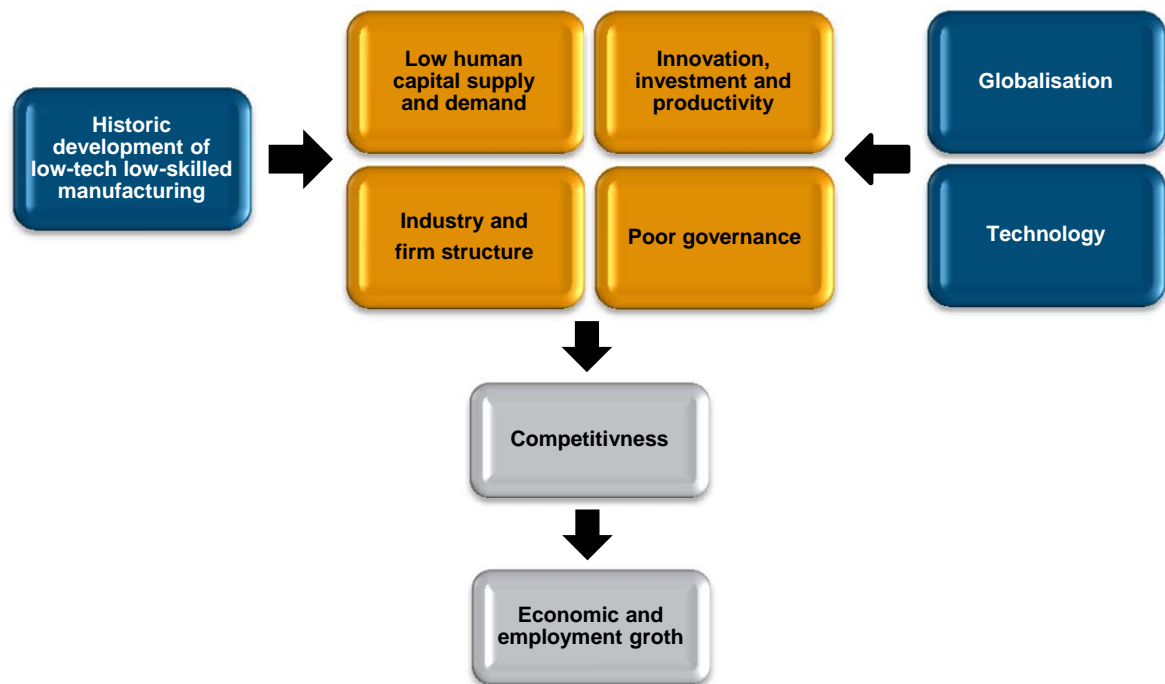**Figure 4.30 / Factors driving economic and employment growth in Norte**

Figure 4.30 illustrates how many factors, including the historic development of large low-tech manufacturing sector as well as exogenous factors such as globalisation and changes in technology, have presented challenges to which the region has struggled to adapt. The historic development of the manufacturing sector generally did not require high skills and this has persisted to the present industrial structure which has a large low-tech manufacturing sector, while also influencing the quality of higher educational institutions situated within the region. Poor governance and low levels of human capital have also interacted with these exogenous and endogenous factors to hinder investment, innovation and productivity, with firms unable to grow large enough to achieve substantial economies of scale and compete in the global marketplace. The overall effect is poor competitiveness, evident from struggling high-tech exports, with the consequence that economic and employment growth have failed to match that seen in the rest of the EU.

Part of the difficulty in driving productivity in high-tech industries in Norte is that the region has lower levels of educational attainment necessary for the growth of these industries relative to both Portugal and the EU. Greater levels of higher-level educational attainment in disciplines relevant to industry needs coupled with investment in higher education institutions to improve the quality of education and research would provide a skilled labour force with the necessary human capital to complement investment in high-tech sectors. The Regional Operational Programme for Norte 2020[43,44] offers a good

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43 An overview of the programme 'Norte 2020 – Norte's Regional Operational Programme 2014-2020' can be found here: https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/policy-document/norte-2020-norte%E2%80%99s-regional-operational-programme-2014-2020

44 Further details on the priorities of the Norte 2020 Regional Operational Programme can be found here: http://www.norte2020.pt/sites/default/files/public/uploads/programa/CCDR-N_brochura_Ingles_FINAL_NOVO.pdf

step in the direction of policy in this regard. In addition to increasing levels and quality of educational attainment, public policy must also facilitate and support the retraining of the labour force where necessary to support, complement and meet the needs of changes in industrial structure from low-tech industries with declining employment to high-tech industries with growing employment. Furthermore, investment in GERD in Norte has not resulted in the expected gains in productivity suggesting it may be ineffective. Links between industry and higher education should be evaluated with the aim of increasing the transfer of knowledge between university research output (which comprises 43% of GERD) and industry including the application of such knowledge by industry to increase the effectiveness of GERD. The amount of GERD in Norte is slightly above the national average investment for Portugal although Norte falls behind the national average for GERD from state and private non-profit research institutions. Increased financing for GERD undertaken by both state and private non-profit research institutions would build upon existing investments from private enterprises.

Firms in Norte lag behind the rest of Portugal in attaining economies of scale to enable them to compete in the global marketplace such that firms in Norte are smaller relative to the national average. The lack of scale economies comes despite the specialisation of industry and the relatively high population density in Norte although this is at least partly related to industrial structure as firms operating in the textiles industry tend to be smaller[45]. Furthermore, entrepreneurial activity in the form of new firm formation is often low in Norte relative to the rest of Portugal, limiting the potential for economic growth driven by new and potentially rapidly growing firms. Such findings further highlight the need for greater cooperation between industry and higher education institutions including through joint partnerships for commercialising research output and the development of new high-growth firms driven by technological developments. Higher education institutions could also serve as a conduit for greater intra-industry cooperation between firms to mitigate some of the lack of scale economies among Norte's relatively small firms.

Much of this is supported by the existing policy analyses that have been undertaken in the region. Norte has historically been closely linked in economic terms to the Spanish region of Galicia, due to geographical proximity, as recognised by their continued transnational cooperation through a joined cross-border smart specialisation strategy[46]. This highlights the importance of improvements to the energy system (through the utilisation of biomass and tidal technologies), increasing the competitiveness of the agri-food, biotechnology and mobility industries, while developing stronger (and more modern) offerings in the tourism, creative industries and healthcare sectors. This strikes a good balance of encouraging the development of existing sectors (such as energy and agri-food) while also seeking to develop new strengths in high-tech sectors which offer better long-term prospects for growth. On the R&D front, the policy prescription is to develop and expand existing offerings, rather than completely new sectors, although the report highlights the necessity of increased involvement from the private sector, while R&D activity has been largely supported by the public sector (and public sector institutions) in recent history.

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[45]   For more information on the structural profile of the textiles industry, see the following link: http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Textile,_clothing,_leather_and_shoe_production_statistics_-_NACE_Rev._1.1#Structural_profile

[46]   See http://www.ris3galicia.es/wp-content/uploads/2016/07/RIS3T_INGLES.pdf

At the same time, NORTE 2020 sets out a clear vision for the region, going beyond the S3 platform to identify policy priorities that can be addressed by a range of funding from the EU and domestic public agencies. However, the priorities that are identified are similar to those identified in this case study and the shared S3; notably measures aimed at improving the competitiveness of SMEs in the region, improving educational outcomes and prompting higher levels of R&D and innovation[47]. Furthermore, measures of governance encompassing the rule of law, government effectiveness, voice and accountability and corruption indicate poor performance in Norte, which is the poorest performing region in Portugal on this metric and is below the EU average. In contrast, national governance in Portugal is above the EU average, suggesting that regional government is hindering economic development including the delivery and implementation of national and EU regional policies and investment. Efforts to increase transparency through greater information dissemination and evaluation would help to address accountability and effectiveness in Norte's governance ensuring that public investment is effectively implemented. For instance, greater coordination across governments and policy areas, promotion of policy learning across levels of government, strengthening of capacities, as well as ensuring sound framework conditions at all levels of government offer a basis for improving regional governance across Portugal to foster economic and employment growth[48].

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[47] See http://www.norte2020.pt/sites/default/files/public/uploads/programa/CCDR-N_brochura_Ingles_FINAL_NOVO.pdf

[48] A brief overview of OECD recommendations for regional governance in Portugal including a discussion of Portuguese regional policy within EU regional policy can be found at the following webpage:
https://www.oecd.org/effective-public-investment-toolkit/Portguese-regional-policy.pdf

5. Case study Nord-Est

This case study analyses the Romanian Nord-Est (North-East, RO21) region. This is done in a three-step approach:

In a first step, the case study provides firstly a brief introduction to the North-East region and secondly an analysis of the recent economic development in the region, highlighting the main strengths and weaknesses in the region's performance.

In a second step, the case study will identify the major, region-specific, causes of the observed developments. For this, the analysis will draw on the findings of Part I to Part III of the overall study to filter out to which extent the macroeconomic environment, structural imbalances and investment trends and needs contributed to the observed development. By focusing on those causes that specifically affected the case study region, the analysis develops a region-specific storyline on the success and failures in the region's economic development. To deepen the analysis of Part I to Part III, the analysis will use where applicable and possible national/regional data.

In a third step, the case study will derive conclusions based on the above analysis. These conclusions should be indicative of potential development opportunities for the region and the necessary policy measures to overcome the challenges in order to exploit these opportunities.

5.1. GENERAL CHARACTERISTICS, ECONOMIC DEVELOPMENT, MAIN STRENGTHS AND WEAKNESSES

### General and demographic characteristics, geographic location

Located in the north-eastern parts of Romania, the Romanian NUTS 2 region North-East is one of the most eastern and peripheral regions within the EU, bordering Moldova and Ukraine. Among the eight Romanian NUTS 2 regions, the North-East region is the biggest region in terms of population (about 3.25 million inhabitants in 2016 – see Figure 5.2), with approximately 58% of the population[49] living in rural and 42% in urban areas.

From a topographical point of view, the North-East region is split into three parts: the Eastern Carpathian mountain area in the western parts of the region (around 28% of the total area of the region), the Sub-Carpathians in the centre (about 12% of the area) and the Moldavian Plateau in the eastern parts (covering about 60% of the area).

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[49] Population refers to resident population, i.e. all persons of Romanian nationality, as well as foreign or stateless who have their usual residence in Romania (see INSSE, Tempo-online database).

Figure 5.1 / Geographic location of the North-East region

From a geographic as well as an administrative dimension, the North-East region is further divided into 6 counties (corresponding to NUTS 3 regions), namely Suceava (North-West of the region), Neamt (Centre-West), Bacau (South-West), Botosani (North-East), Iasi (Centre-East) and Vaslui (South-East), with each county being named after the main city in its area.

Figure 5.2 / Population by NUTS 2 regions and urban/rural areas, 2016
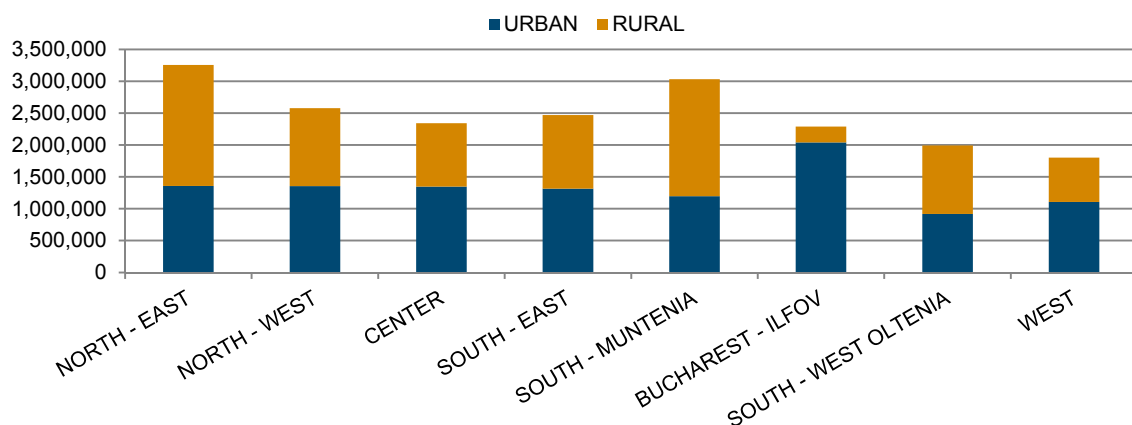
Source: INSSE (National Institute of Statistics Romania), Tempo-online database.

As noted in Part III of the study, the Romanian counties are generally more important in terms of public administration and regional policies than the bigger NUTS 2 development (or planning) regions. While the counties have their own set of responsibilities, inter alia including economic development, as well as budget, the NUTS 2 regions have been mainly introduced for statistical purpose and the management of EU Structural Funds. For this, the case study will not only take into account the developments in the North-East region on aggregate but, where possible, also analyse the differentiation across counties within the region.

Among the six counties, Iasi is in terms of population the largest NUTS 3 region with close to 800,000 inhabitants; Suceava and Bacau county are the second and third largest counties (around 600,000 inhabitants), while Neamt, Botosani and Vaslui have around 400,000 inhabitants in 2016 (see Figure 5.3). All counties are characterised by a large share of population living in rural areas. Thus, in Iasi, being the most 'urbanised' county in the North-East region, around 54% of the population live in rural areas. This share of rural population goes up to 60% in Suceava, Botosani and Vaslui and even stands at 65% in Neamt county.

Figure 5.3 / North-East population by counties (NUTS 3 regions), 2016
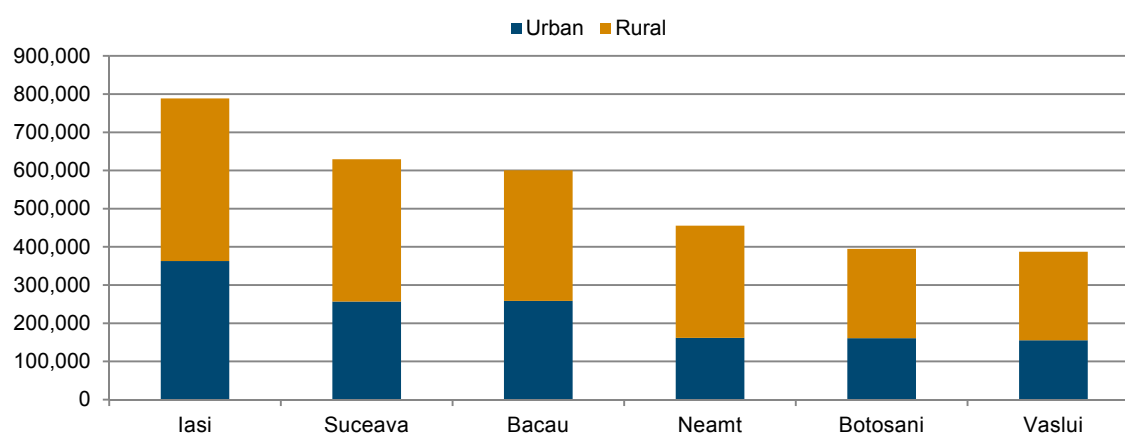
Source: INSSE, Tempo-online database.

Below the county level the North-East region has 46 cities, thereof:

›   three large cities (over 100,000 inhabitants): Iasi, Bacau and Botosani;

›   five medium cities (50,000 to 100,000 inhabitants): Suceava, Piatra Neamt, Barlad, Vaslui and Roman;

›   20 small cities (10,000 to 50,000 inhabitants);

›   18 very small cities (less than 10,000 inhabitants).[50]

The city of Iasi is by far the biggest (in terms of population) and economically most important city in the North-East region. It has around 290,000 inhabitants (4th largest city in Romania according to the 2011 census) and is a centre for manufacturing industry and services, as well as administration, education, health, culture and innovation within the region. The city itself as well as its surrounding area are also the seat of two very large companies (of national importance) employing more than 1,000 employees, i.e. a pharmaceutical producer (Antibiotice SA), a company producing electrical equipment for motor vehicles (Delphi Diesel Systems Romania SRL), as well as a moderate number of large and medium-sized companies in the food, textiles, electronic and pharmaceutical sector. Many of those firms are related to direct investment of foreign companies.

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[50]   See: North-East Regional Development Plan, 2014-2020;
(http://www.adrnordest.ro/user/file/pdr/PDR%20NE%202014-2020%20-%20dec%202015.pdf)

Other important centres of the North-East region are, inter alia, the Bacau city as well as the Suceava city agglomerations. Bacau city (144,000 inhabitants in 2011) is home to, e.g., an aircraft (and aircraft parts and maintenance) producer (Aerostar SA) as well as larger firms in the food/tobacco, construction, and wholesale industries. Suceava is the seat of a large paper and cardboard company as well as electrical, construction, and food processing companies[51].

Unlike most other regions in Romania, the North-East region shows a positive long-run population trend[52]. Thus, from 1992 to 2016, population grew by more than 68,000 people (see Figure 5.4 – left graph), especially in urban areas (population increase of 151,000 people), while in rural areas population declined (by more than 83,000 people). In the same period, total population in Romania declined by 883,000 people.

Figure 5.4 / Absolute change in population (left graph) and annual average population growth rates (right graph) – Romanian NUTS 2 regions, 1992-2016
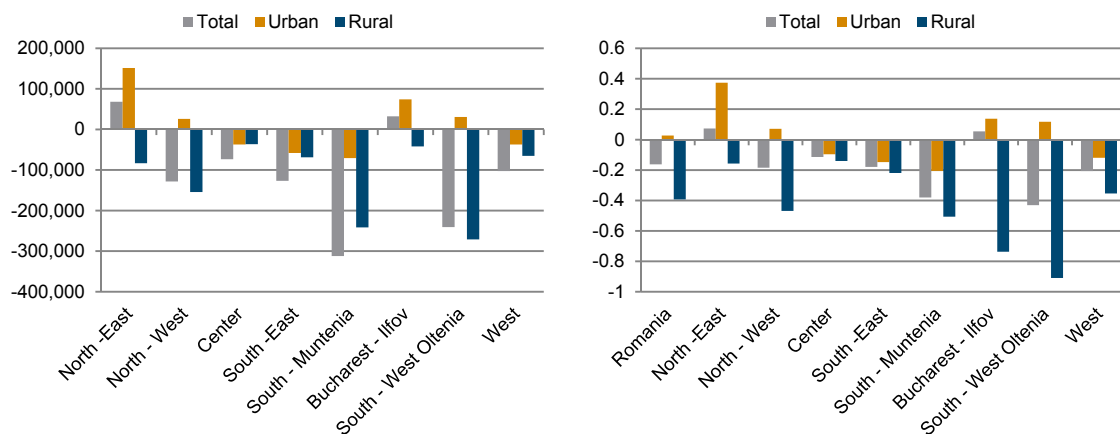
Source: INSSE, Tempo-online database.

At the county level, the increase in the North-East region's population was mainly concentrated on Iasi county, where population in both urban and rural areas increased strongly from 1992 onwards (by 98,000 people in total). Suceava county also had a positive long-run population trend, especially in the urban areas. In all other North-East counties, total population declined, if only weakly, with the decrease of population being concentrated on the rural areas (see Figure 5.5).

The main reason for the increase of population in the North-East region was, again in contrast to the Romanian trend, a positive international migration balance. As Figure 5.6 illustrates, migration flows from and to the North-East region were relatively small over the period 1991-2010 (in contrast to

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51 See: North-East Regional Development Plan, 2014-2020 and also 'Report on the competitive advantages and innovation potential in the North-East region', http://www.adrnordest.ro/user/file/proiect_s3/strategie_s3/1.%20Raport%20analiza%20avantaje%20competitive%20si%20potential%20inovare%20RNE.pdf

52 These population numbers refer to 'permanent resident population', i.e. the number of persons with Romanian citizenship and permanent residence on the territory of Romania. A person's permanent residence is the address where he/she declares to have the main dwelling, printed as such on his/her identity card and registered by the administrative bodies of the state. These population numbers are different from 'usual' residence numbers. However, for the latter no long-run time series exist.

country-level developments). Still, accumulated over this period the North-East region's net migration was negative, i.e. more people left than came to the region. Starting in 2011 (when Romania was expected to join the Schengen area), immigration to Romania and especially to the North-East region increased strongly. Most immigrants came from the neighbouring Republic of Moldova, partly based on the right to obtain Romanian citizenship grounded on their descent[53]. These strong immigration flows led to a net migration balance of over 50,000 people over the period 1991-2015.

Figure 5.5 / Absolute change in population (left graph) and annual average population growth rates (right graph) – North-East counties, 1992-2016
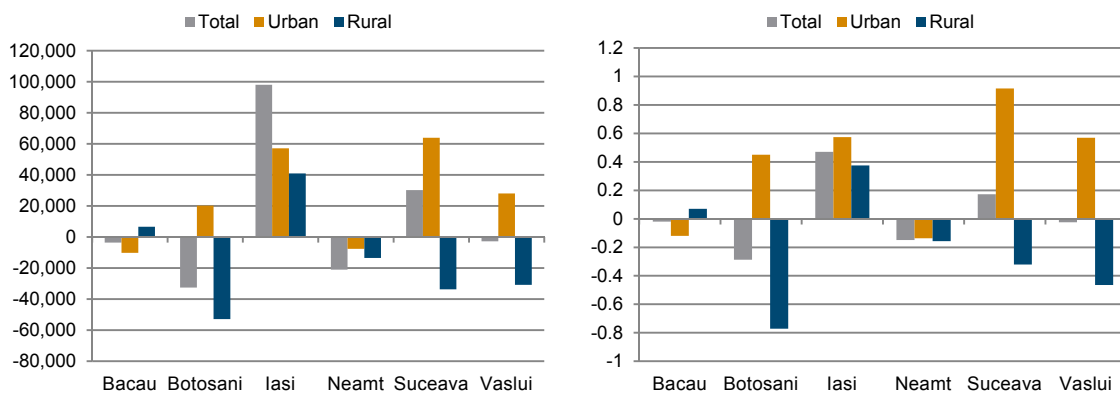
Source: INSSE, Tempo-online database.

Figure 5.6 / Migration flows, Romania and the North-East region, 1991-2015
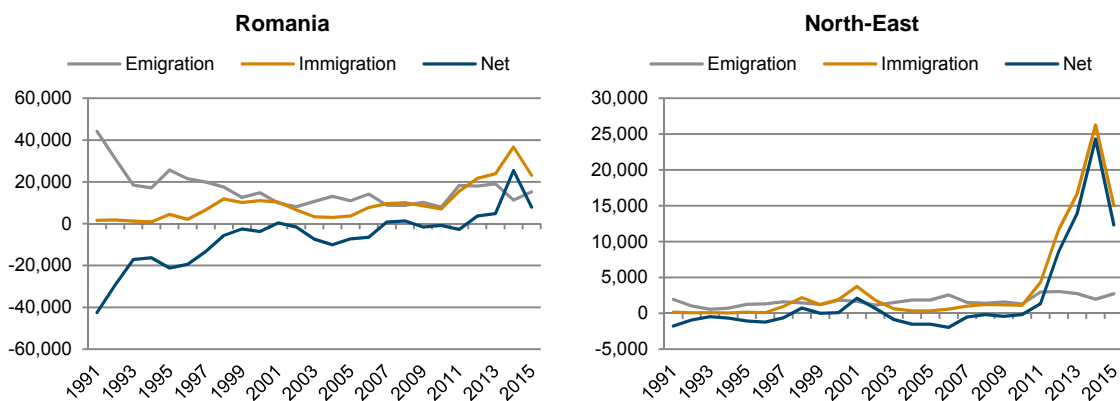
Source: INSSE, Tempo-online database.

Economic development

Economically, the Romanian North-East region is one of the least developed within the EU-28. In 2014, GDP per capita levels (in PPS) were around 34%, while productivity levels (in euro) were slightly above 15% of the European average. Still, to some extent the low level of economic development disguises a strong catching-up process over the last 15 years, both in terms of GDP and productivity levels. Thus,

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[53]   Anyone with at least one Romanian great-grandparent is eligible for Romanian citizenship.

from 2000 to 2014, GDP per capita levels increased from 19% to 34% of the EU average, thus reducing the gap by 15 percentage points. Similarly, productivity levels increased from 9% in 2000 to 16% of the EU average in 2014.

Figure 5.7 / GDP per capita at PPS and productivity levels, in % of the EU-28 average
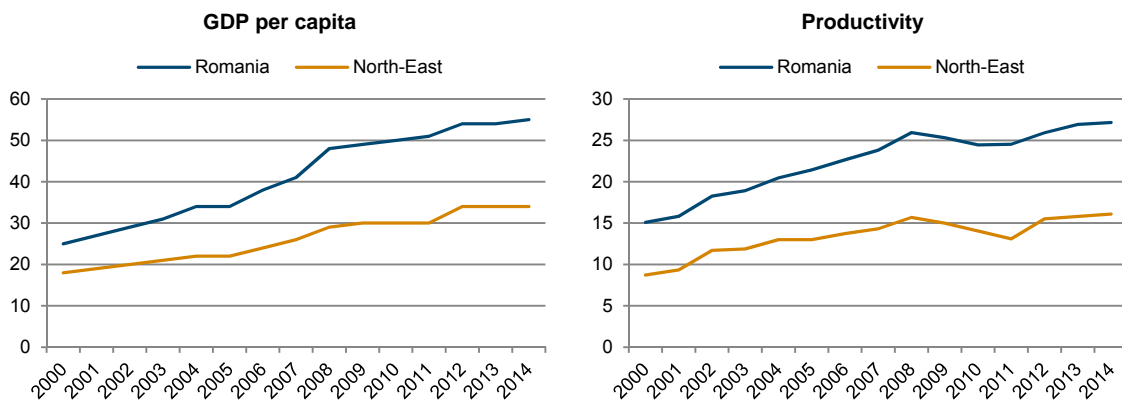
Source: Eurostat, own calculations.

The North-East economic convergence process towards the EU is further illustrated in the figure below showing real GDP and productivity growth developments for 2000-2014. Both real GDP and productivity grew much faster in the North-East region than in the EU over the whole period except the years of the economic and financial crisis. The accumulated GDP growth rate 2000-2014 was around 60% in the North-East region, while only around 14% in the EU-28. The accumulated productivity growth rate of productivity in the North-East region was even higher, i.e. 111% (in the period 2000-2014), while in the EU productivity increased by 14%.

Figure 5.8 / Real GDP and productivity growth, index year 2000 = 100
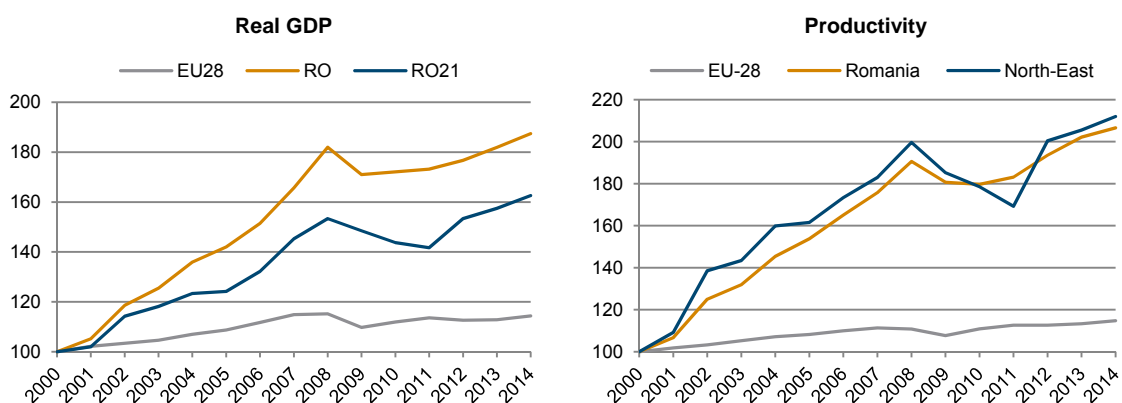
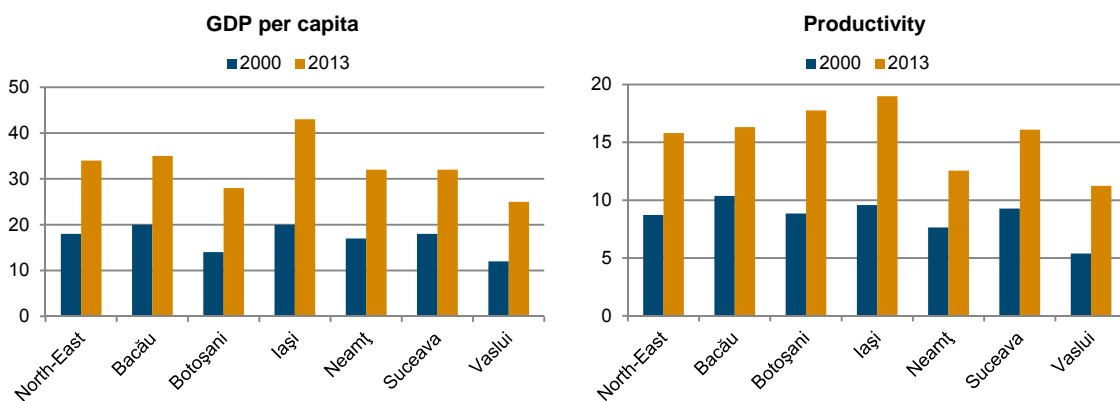Source: Eurostat, own calculations.

At the same time, in both the graphs on GDP and productivity levels as well as growth, the North-East convergence process was not entirely positive. On the one hand, in terms of GDP the North-East region grew at a slower pace than Romania on average, leading to an increase of disparities within Romanian. On the other hand, although productivity growth in the North-East region was comparable to the

Romanian average, absolute differences in productivity levels widened in Romania (through a base effect). Thus, overall, while converging to the EU on average, the North-East region trailed behind country developments.

Additionally, as the latest GDP per capita data suggest (Figure 5.8) even convergence towards the EU was almost halted over the last three years of observation (i.e. the years 2012-2014), as the GDP per capital level stayed at 34% of the EU average.

Analysing GDP per capita and productivity developments at the county – NUTS 3 – level suggests that, as a matter of fact, the North-East region faces a triple convergence issue. Not only is convergence to the Romanian and European average desirable, but also within the region the level of economic development differs greatly as Figure 5.9 illustrates.

Figure 5.9 / GDP per capita at PPS and productivity levels – North-East counties, in % of the EU-28 average

Source: Eurostat, own calculations.

Figure 5.10 / Annual average productivity growth rate, 2000-2013
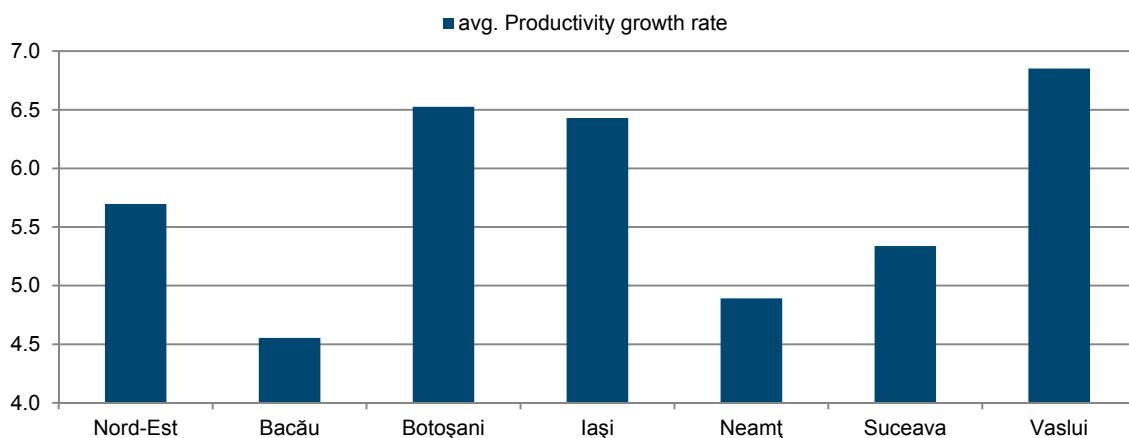
Source: Eurostat, own calculations.

Amongst the six counties, Iasi had the highest GDP per capita levels both in the years 2000 and 2014, as well as the best growth performance. Thus, its GDP increased from 20% of the EU-28 average to 43% in 2014. The second highest GDP per capita in 2014 was recorded in Bacau, followed by Neamt and Suceava (all over 30% of the EU-28 average). The least developed counties in the North-East region are Botosani and Vaslui with 2014 GDP per capita levels of 28% and 25% of the EU-28 average respectively.

Similar differences exist for productivity levels, though they are not necessarily related to GDP levels; e.g. Botosani has a low GDP level, but productivity levels are comparable to the leading county of Iasi. Besides large differences in levels, the counties also showed highly differentiated productivity growth paths over the period 2000-2013 (see Figure 5.10), with some counties, i.e. Vaslui, Botosani and Iasi, having annual average growth rates of over 6%, while other counties grew comparatively modestly, like Bacau, Neamt, and Suceava (though in comparison to the EU their growth is still impressive).

5.2. CAUSES OF DEVELOPMENTS

Production and firm structure

The major reason for the low level of economic development of the Romanian North-East is found in its production and firm structure.

Starting with the production structure, Figure 5.11 illustrates that in the North-East region the agricultural sector contributed around 8.5% to total regional GVA in 2014. Industry (including mining, manufacturing, energy and water supply) contributed around 22%, with 14 percentage points thereof having been generated by manufacturing industries. The market services' share in total regional GVA was around 42% and the share of public services amounted to 20%.

Figure 5.11 / Sectors' shares in total regional GVA, 2014
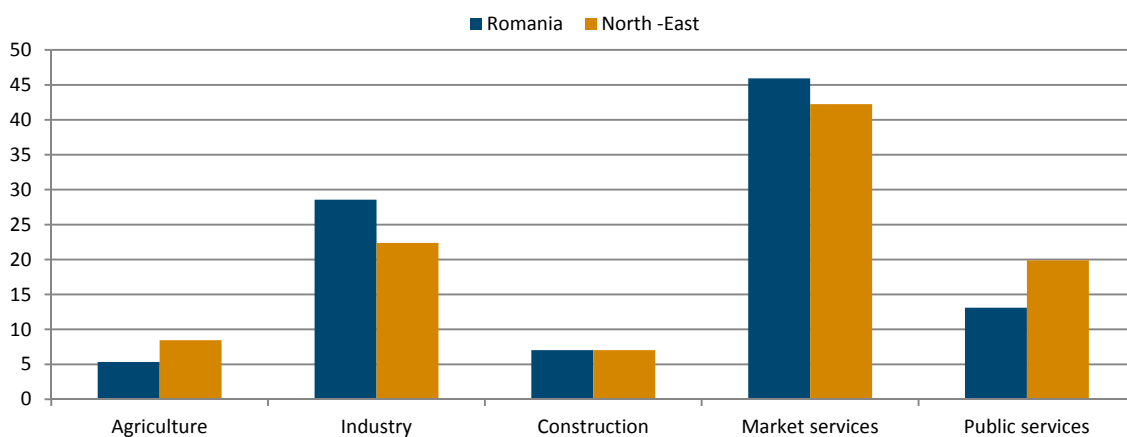
Source: INSSE, Tempo-online database.

Comparing the region's structure to the average Romanian production structure shows that in the North-East region agriculture as well as public services contribute a larger part to the total GVA than they do in

Romania on average. By contrast, industry (especially manufacturing industry) as well as market services (especially knowledge-intensive services) contribute less to the economy compared to the Romanian average.

To put the sectors' contribution to the regional GVA in perspective, Figure 5.12 shows the employment shares of these sectors in total regional employment. By combining both GVA and employment data, the figure also provides information on the productivity by sectors.

As far as employment is concerned, around 40% of total employment is in the agricultural sector in 2014 (compared to 27% on the Romanian average). 16% of the employed are in industry, 25% in market services and 12% in public services.

Corresponding to the enormous difference between the share of agriculture in GVA and employment, productivity in this sector is extremely low. In fact, much of the agricultural production seems to be related to subsistence farming, with agricultural 'employment' being often a buffer for those not finding employment or income elsewhere. Related to this, the number of elderly people employed in agriculture is high, i.e. around 32% of the farming population is of age 55 or older (a third of those is older than 65 years). At the same time, the number of young people is continuously declining in the rural areas.

In addition to this, despite having fertile soils for a number of crops and vegetables (e.g. potatoes, rye, cabbage etc.), the agricultural sector is hampered by low (technological) capacities; for instance, only a fraction of agricultural areas have irrigation works while existing production capacity is insufficient to process the raw materials[54].

Contrastingly, productivity in the other sectors of the region's economy is much higher (being highest in market and public services). Yet, a comparison with the Romanian average shows that, except for public services, productivity in all sectors is partly much lower in the North-East region than in other Romanian regions, especially in the case of industry.

Figure 5.12 / Sectors' shares in total employment and productivity by sectors (ROL thsd.), 2014
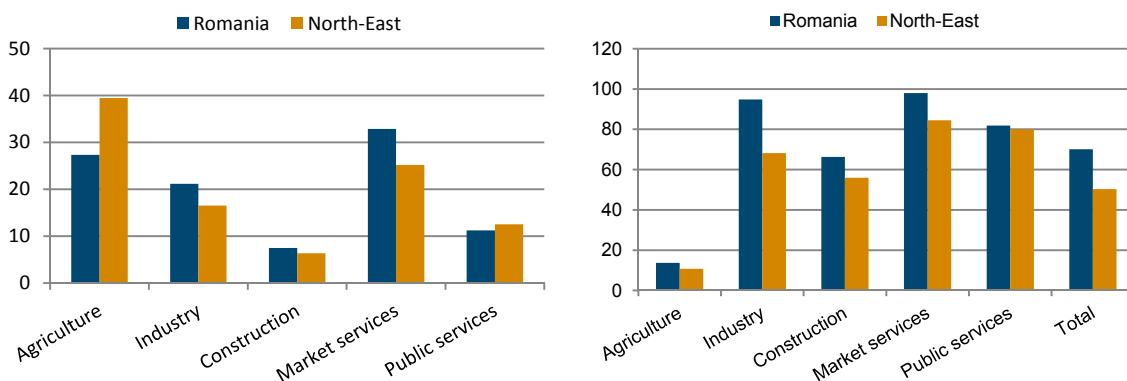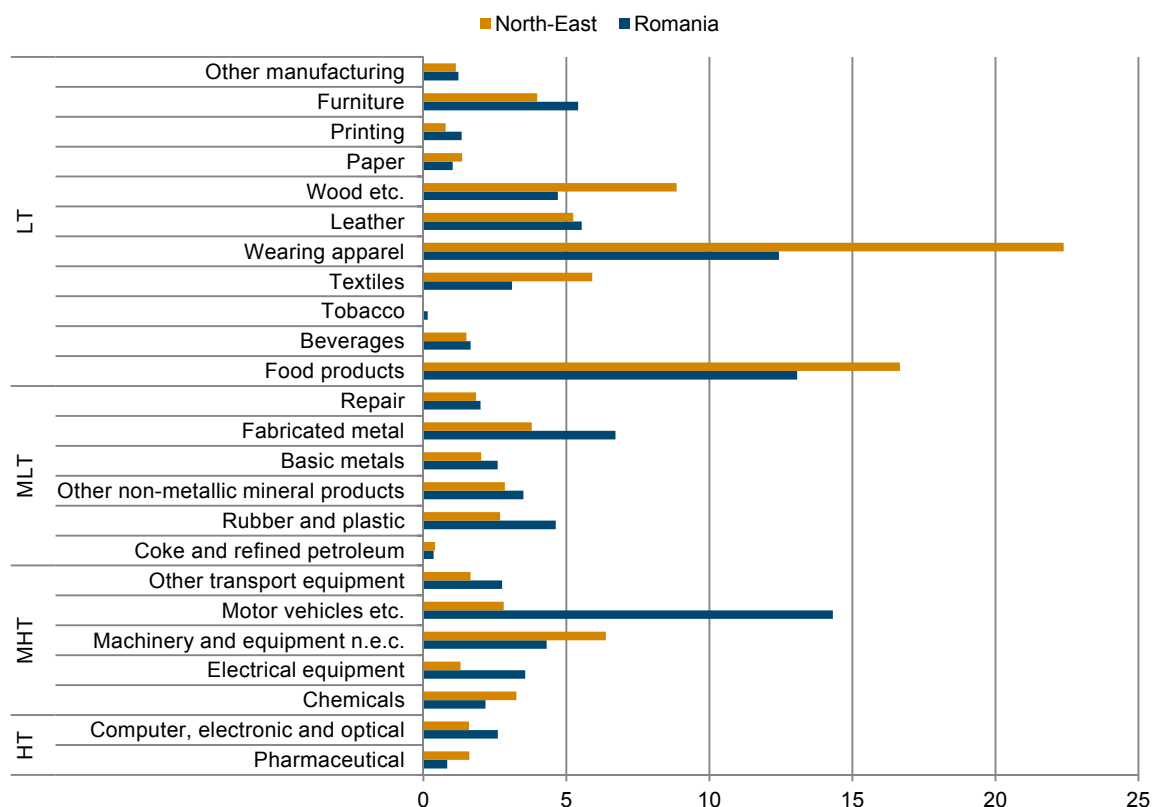

Source: INSSE, Tempo-online database.

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[54]   See: North-East Regional Development Plan, 2014-2020.

Analysing manufacturing industry in more detail, Figure 5.13 shows the share of individual NACE 2-digit (NACE Rev. 2) industries in the total number of manufacturing industries employees in 2015. The industries are also grouped by their technology content[55] into High-technology (HT), Medium-high-technology (MHT), Medium-low-technology (MLT) and Low-technology (LT) industries.

The figure shows that in the North-East region over two thirds of total manufacturing employees work in LT industries, 13.6% in MLT, 15% in MHT and slightly over two per cent in HT sectors. Thus, the North-East region has a much larger share of employees in LT sectors than Romania on average (share of 50%), but a much lower share in MHT sectors (Romanian share 27%) given the high importance of the automotive industries in other parts of Romania.

The three most important manufacturing industries in the North-East region are: Wearing apparel (22%), Food industry (16%) and Wood production (9%), which together account for almost 50% of all employees in the manufacturing industries.

Figure 5.13 / Share of employees by manufacturing industries, 2015
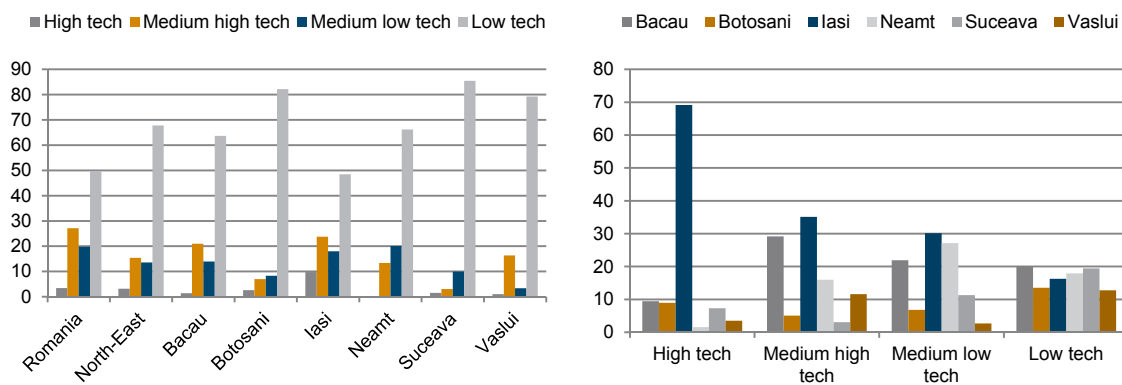

Source: INSSE, Tempo-online database.

This specialisation in low-technology-intensive manufacturing is also observable at the county level, though the extent of it tends to vary across the counties. As Figure 5.14 illustrates (the left graph showing the sector's share in manufacturing employees in each county), LT industries account for 50%

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[55] Following Eurostat indicators on High-tech industry and Knowledge intensive services, Annex 3 – High-tech aggregation by NACE Rev.2

or more of total manufacturing employees in all counties, except for Iasi. The share of LT industries is particularly high, i.e. equal to or higher than 80%, in Botosani, Suceava and Vaslui. Iasi and to some extent Bacau and also Neamt have a somewhat more differentiated employment structure; especially Iasi has, on a comparative basis, a relatively large share of employees in the MHT, MLT and also HT sectors.

The right graph in Figure 5.14 shows the counties' share in total North-East employees by sectoral technology groups. Hence, it illustrates that within the North-East region around 70% of employees in the HT industries work in the county of Iasi. MHT as well as MLT employment is mostly concentrated in Iasi, Bacau and Neamt, while LT employment is equally distributed across the North-East counties.

Figure 5.14 / Share of employees by manufacturing industries and counties, 2015
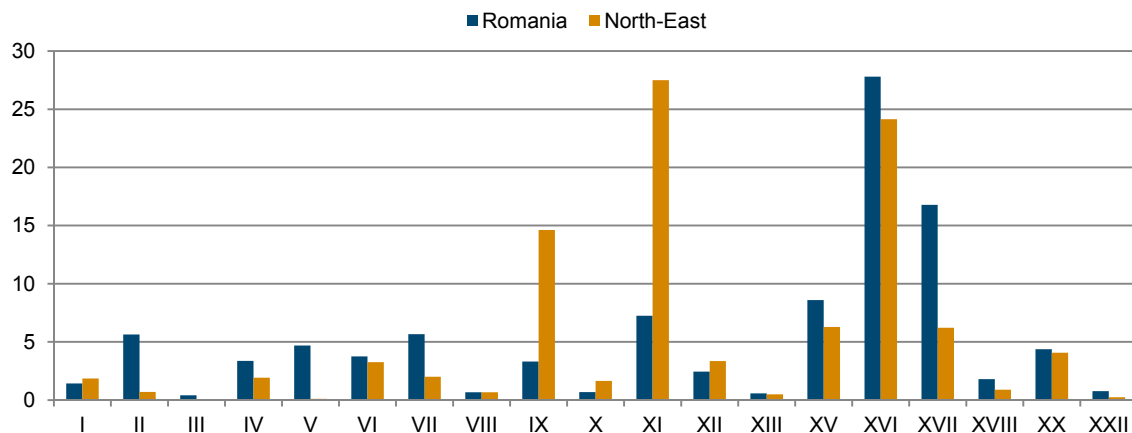

Source: INSSE, Tempo-online database.

The sectoral specialisation of the North-East region in LT industries is also strongly reflected in its foreign trade/export structure. The respective data presented in Figure 5.15 is taken from customs statistics[56] and aggregated by the CN trade classification. The Roman numbers in the figure represent product categories.

Without providing too much information on these categories (a list of CN codes is provided in the Annex), the main point of the figure is to highlight the strong concentration of North-East exports on a small number of product categories, i.e. textiles (XI – 27.5% of exports), Machinery and mechanical appliances; electrical equipment (XVI – 24%; three quarters of these exports come from Iasi county) and Wood and articles of wood (IX – 14.6%; in fact the North-East region is Romania's biggest exporter in this area). Two thirds of all North-East exports come from these three product categories alone. Thus, compared to Romania on average, the export structure of the North-East region is much more concentrated on a small number of goods, mostly of the lower value added production segment. The exception to this is machinery exports, which provide one quarter of the region's export – despite having a relative small share in industry employment (indicating a high value added content of the respective products).

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[56] Regional trade data from customs statistics is likely to be downward biased for regions and counties. This is because of two effects, i.e. a headquarter effect and a warehouse effect, which may cause that exports and imports are recorded in different regions to where they are produced or used.

Figure 5.15 / Share in exports by product classes, 2015

Source: INSSE, Tempo-online database.

Turning to the firm structure in the North-East region, Figure 5.16 compare the region's structure in terms of distribution of firms across sectors as well as by size class. Figure 5.16 shows these distributions for all sectors of the economy, while Figure 5.17 concentrates on the manufacturing industry firms.

Figure 5.16 / Number of firms by sectors and size class (in % of total firms), 2015
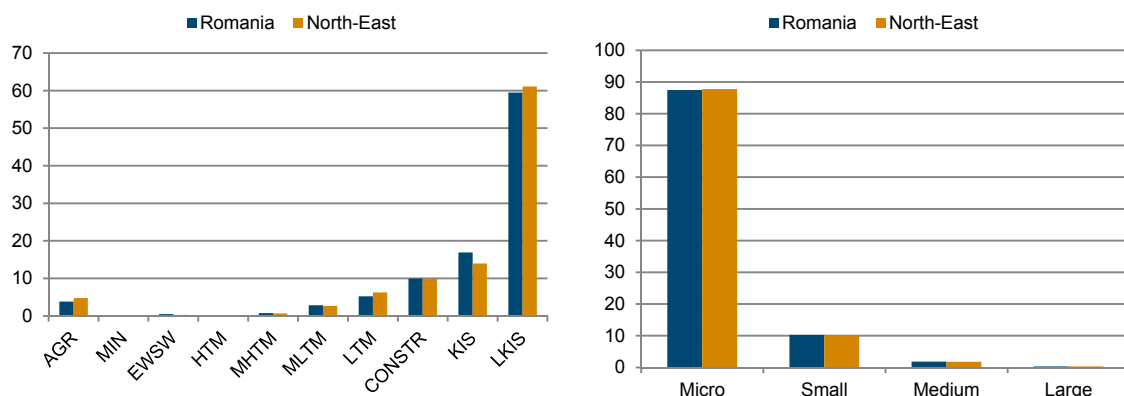

Note: AGR: agriculture; MIN: mining; EWSW: energy.
Micro: 0-9 employees; small: 10-49 employees; medium: 50-249 employees; large: more than 250 employees.
Source: INSSE, Tempo-online database

The main point of these figures is that there is no major difference between the North-East and the Romanian average firm structure. In both cases, most firms exist in low-knowledge-intensive services (60% of all firms), and most of these firms a micro enterprises (less than 10 employees). Knowledge-intensive services account for 14-17% of firms.

In the manufacturing industries most firms are micro enterprises, too (both in the North-East region and Romania), with the majority of these firms operating in the medium-low- and low-technology sectors.

Figure 5.17 / Number of firms in manufacturing industry by size class and technology content (in % of total firms), 2015

Romania

HTM MHTM MLTM LTM

North-East

HTM MHTM MLTM LTM
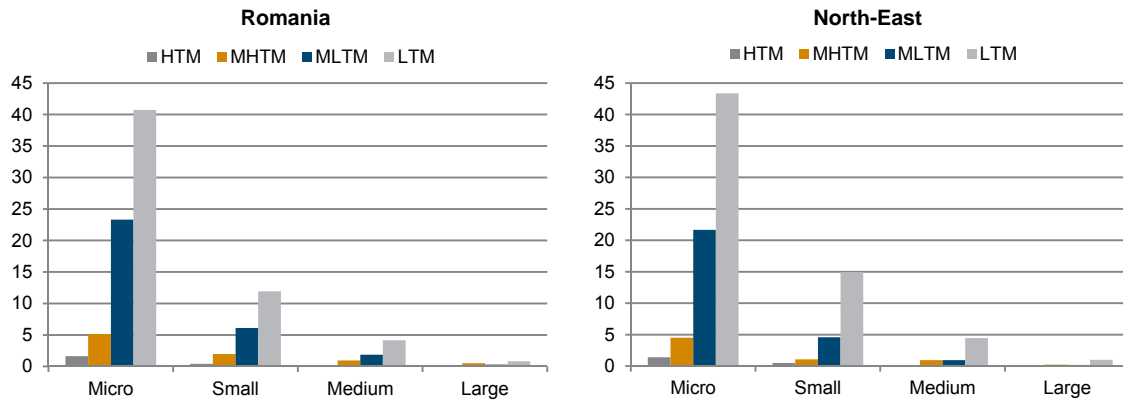
Source: INSSE, Tempo-online database.

The main difference between Romanian and the North-East region's firms is in their performance and investment behaviour. Figure 5.18 shows the investment and turnover by company in the North-East region as a percentage of the Romanian average turnover and investment by company.

It illustrates that for any size class, both turnover and investment are partly much lower on average in the North-East than in Romania; for instance, an average micro-firm in the North-East only invests 40% of the amount a micro-firm invests in other parts of Romania. Similarly, the turnover of an average large company in the North-East region is only half of the turnover of a large firm in Romania on average.

Figure 5.18 / Average investment and turnover of companies in the North-East region, by technology content (in % of Romanian average investment and turnover by company – Romanian average = 100), 2015

Investment Turnover
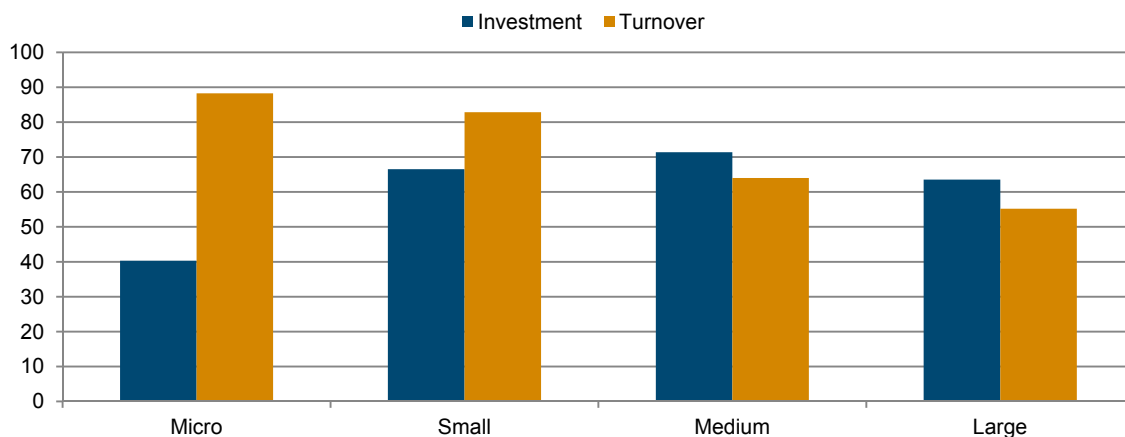
Source: INSSE, Tempo-online database.

5.3. FRAMEWORK CONDITIONS

Macroeconomic environment

After a transition-related shaky start in the 1990s, Romania's economy grew strongly up until the economic and financial crisis in 2008. After two years of recession (2009 and 2010), economic growth picked up weakly in the immediate aftermath of the crisis and has become stronger in recent years. Still, post-crisis growth rates are lower than growth rates before the crisis, with expectations being that in the near future real GDP growth will be around 4% annually (see Figure 5.19).

Figure 5.19 / Real GDP index (2010 = 100) and annual real GDP growth rates, Romania
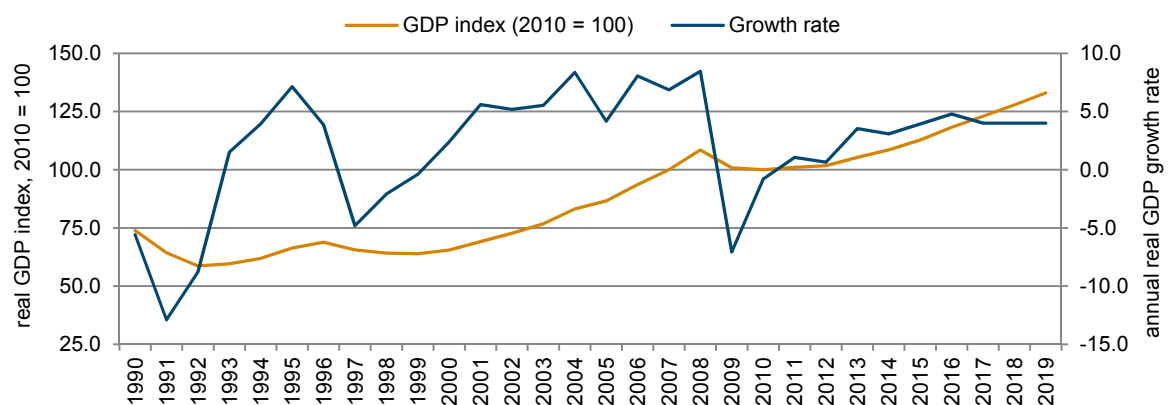
Source: wiiw (including wiiw forecasts March 2017).

Despite lower post-crisis growth rates (if compared to the pre-crisis period), Romania is expected to grow 2 percentage points ahead of the EU on average over the next couple of years[57]. Thus, Romania remains on a stable convergence path.

Main drivers of economic growth in 2016 and onwards have been private consumption, positively affected by cuts in the VAT and increasing minimum wage levels, but also investments and government consumption. Despite a cautious monetary policy, with relatively high interest rates, investments tend to benefit from a strengthened banking sector as non-performing loans are on the decline while profits are robust. This enables banks to increase their loan portfolio especially to companies, but less so to consumers.

The current account deficit, having been low throughout 2013-2015, is expected to increase somewhat (to around 0.7% to 1.2% of GDP), driven by high domestic demand, partly due to the increase in wages. Given the improving situation in the labour markets (unemployment rate around 6.2% in 2016), with some sectors reporting labour shortages (mostly in the Western Romanian regions), wages are likely to increase further, thus strengthening domestic demand even more[58].

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[57] DG ECFIN expects an average growth of 1.8% for the EU in 2017 and 2018 (see: DG ECFIN European Economic Forecast Winter 107),

[58] See: Hunya, G. (2017), 'Romania: Economic deceleration follows the boom', wiiw Forecast Report Spring 2017: Cautious Upturn in CESEE: Haunted by the Spectre of Uncertainty.
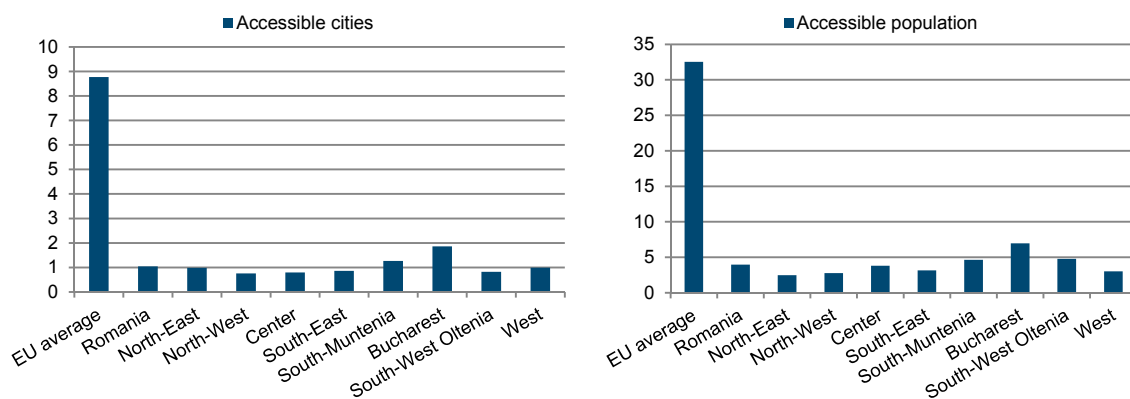
Accessibility

The North-East region is one of the most peripheral regions within the EU. Bordering Ukraine and the Republic of Moldova in the North and East respectively, as well as other Romanian regions, it is located in a low-income area with a particularly unfavourable market potential. At the same time, the North-East region is not very well connected to the potential markets in the West, as e.g. motorways going to the region are absent (although there are plans for an East-West motorway A8, linking Iasi to the Romanian motorway network. However, it is likely to be completed only around 2023-2026). Additionally, many of the main transport routes connecting the region suffer from a lack of bypasses around cities, thus slowing down transport speed as well as having negative externalities on the people living along these transport routes.

The region is somewhat better connected to the West in terms of air transport, as both Bacau and Iasi have an international airport, with flights going, inter alia, to Rome, Milan, Paris, London (Luton), Dublin, Brussels and Vienna.

Still, overall the region's accessibility and thus market potential is particularly low. This is also reflected in a number of respective indicators (see Figure 5.20), such as the number of cities of more than 50,000 inhabitants that can be reached within 60 minutes car travel time as well as the accessible population within a distance of 5 hours car travel time.

**Figure 5.20 / Accessibility indicators, North East region, 2011**

Source: ESPON, TRACC project, own calculations.

A second aspect of accessibility is within-region accessibility. With more than half of the population living in rural areas, good connections to the region's centres are an important factor for the development of the region. Time-saving and safe connections to these centres would increase the region's potential to benefit from agglomeration effects. Workers would find it easier to commute from more remote areas to those areas where jobs are on offer, while firms benefit from a larger labour pool. Additionally, access to health, social or cultural services would be improved for the population in the region.

Currently, within-region accessibility is rather low. Nearly half of the region's population is not connected to the railway network. At the same time, the share of county roads being modernised is rather low (around 35% for the whole region, see Figure 5.21; the situation is similar for urban streets. Besides

providing only a low level of connectivity for the rural areas, the low average quality of roads is also one reason for the high number of traffic accidents in the region (in 2013 road accidents in the North-East region accounted for 14.5% of Romanian total accidents[59]).

Figure 5.21 / Share of roads in total road infrastructure length, 2015
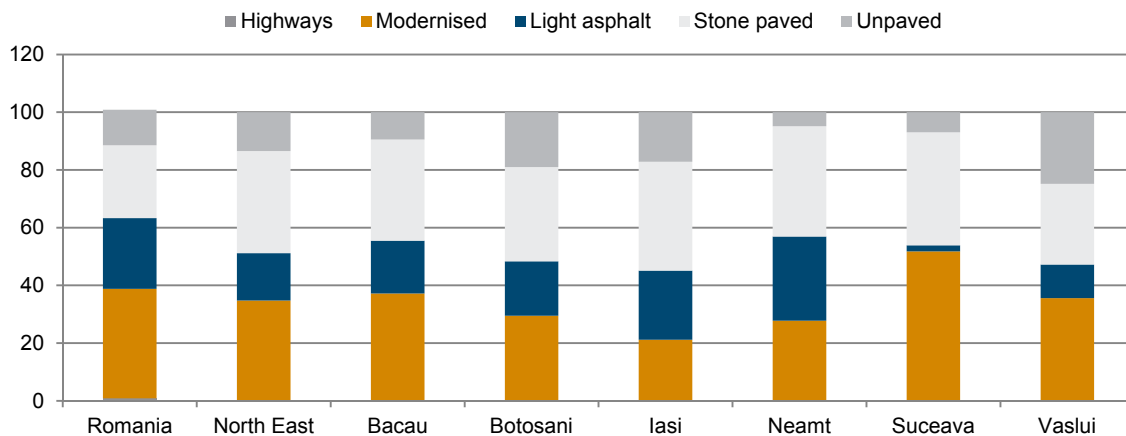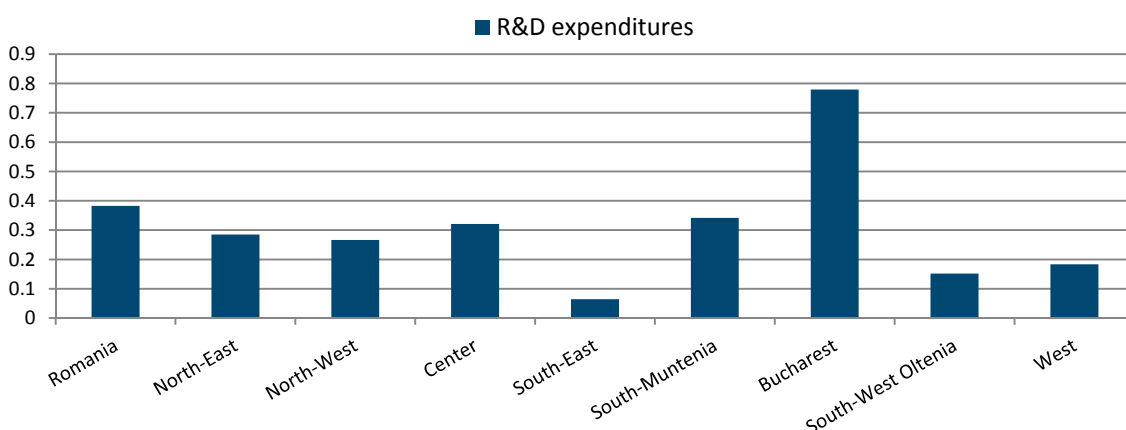

Source: INSSE, Tempo-online database.

Research, development and innovation

The North-East region, just as Romania on average, is characterised by a low R&D and innovation intensity. North-East R&D expenditures amount only to 0.28% of GDP. They are thus slightly lower than the Romanian average of 0.38% (see Figure 5.22), although this average is mainly driven by relatively high R&D expenditures in the capital city of Bucharest.

**Figure 5.22 / R&D expenditures in % of GDP, 2014**

Source: INSSE, Tempo-online database.

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[59]   See: North-East Regional Development Plan, 2014-2020.

The low R&D ratio for the North-East region disguises some major within-region differences. As shown by Figure 5.23, R&D in the region is mainly concentrated in Iasi county, which has an R&D to GDP ratio of 0.7%. Compared to this, R&D ratios of the other counties are much lower. These differences reflect to a large extent the differences in the sectoral structure described above, as it was shown that Iasi county is the centre for high- and medium-high-tech manufacturing industry in the North-East region. Thus, there is a strong correlation between the industry structure and R&D activity.

Furthermore, Figure 5.23 also illustrates that Iasi county is almost the only county in the region where firms also invest in R&D infrastructure (R&D capital expenditures). In fact, 90% of North-East R&D capital expenditures, as well as 70 of current R&D expenditures, are due to Iasi county (right graph).
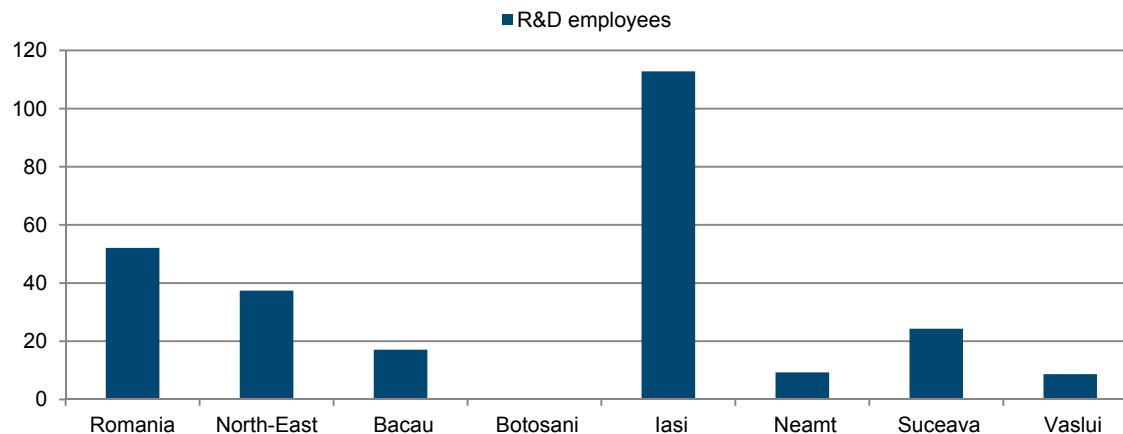
Figure 5.23 / R&D expenditures in % of county GDP (left graph), and counties' shares in total regions' R&D expenditures, 2014
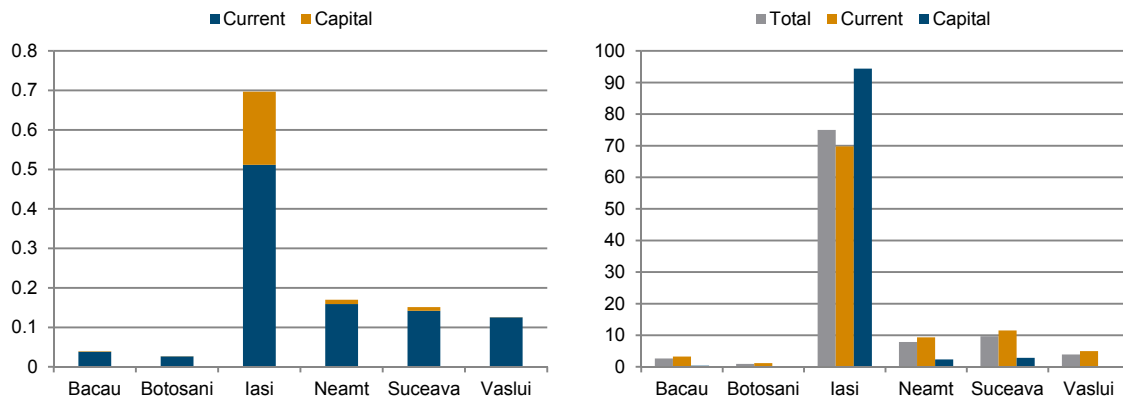
Source: INSSE, Tempo-online database.

The within-regional differences in R&D expenditures are also reflected in the R&D personnel employed in the counties – see Figure 5.24.

Figure 5.24 / R&D personnel per 10,000 civil employees, 2015

Source: INSSE, Tempo-online database.

The low R&D intensity is also reflected in the low number of innovative enterprises in Romania in general and in the North-East region in particular. Thus, the share of innovating enterprises[60] is around 13% in Romania on average. In the North-East region the respective share is around 14.4%, putting the region in the middle of Romanian regions in terms of this indicator.

Figure 5.25 / Share of innovating companies in total companies, 2015
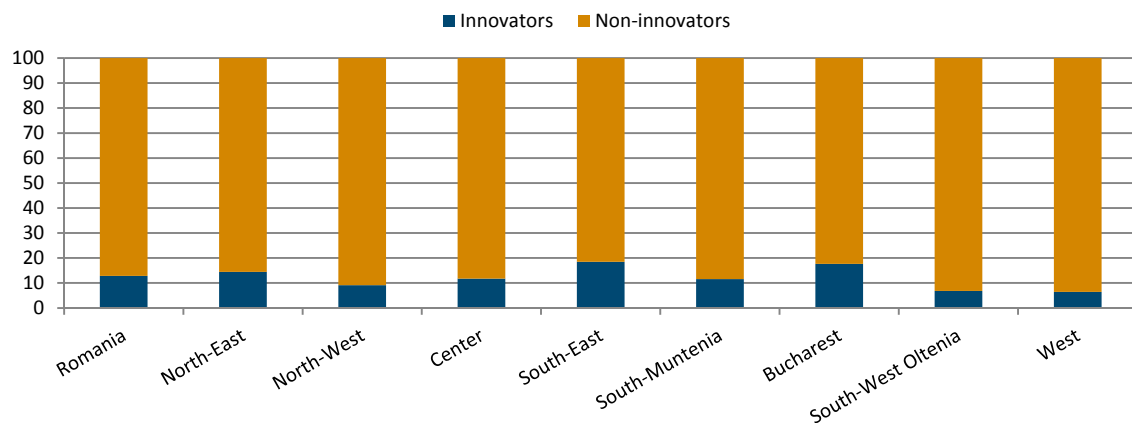
Source: INSSE, Tempo-online database.

Looking at the North-East region in some more detail and analysing innovating enterprises by aggregate sectors (industry and services) as well as by firm size groups (see Figure 5.26) shows that in industry the share of innovators is slightly higher than in services. Data by firm size indicate that, on average, large and medium-sized firms are much more likely to innovate than small firms (although even for large firms the share of innovators is only 30%).

Figure 5.26 / North-East region: Share of innovating companies by sector and size class, 2015
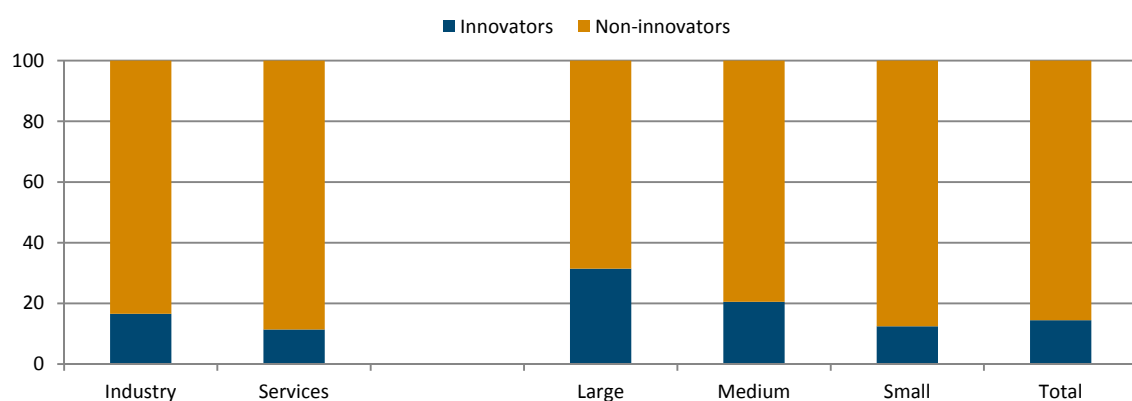
Source: INSSE, Tempo-online database.

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[60]   Innovative enterprises are enterprises launching new or significantly improved products (goods or services) on the market or enterprises which introduced new or significantly improved processes or new organisational or marketing methods. This term covers all types of product, process innovators, organisational methods and marketing methods as well as enterprises with on-going or abandoned innovation activity and refers to active enterprises (source: INSSE).

Governance, business environment and FDI

Poor governance and a partly unfavourable business environment are other factors limiting the potential for development, structural change and upgrading of existing production in the North-East region.

Focusing on governance, corruption is a serious problem throughout Romania, even though the situation seems to have improved in the recent past. According to Transparency International, Romania was considered among the countries with the highest level of corruption in the EU in 2015. This is confirmed by the 2015 Eurobarometer survey of business views, which indicates that corruption is perceived as more of a problem than in other EU countries. In addition, the World Bank Worldwide Governance indicators show that control of corruption is particularly weak in the country.

Latest developments in Romania show that the fight against corruption is a highly controversial issue between the current government and the president in Romania, centring on the fight against corruption and the status of the National Anticorruption Directorate (DNA) and the domestic intelligence service. In this respect a recent government attempt to soften the penal code and decriminalise certain corruption offences triggered massive public protests, forcing the government to repeal. However, the controversy around this issue may escalate at any time into a lasting political crisis that could deter investors[61].

Figure 5.27 / Corruption perception index for Romania, 1996-2015
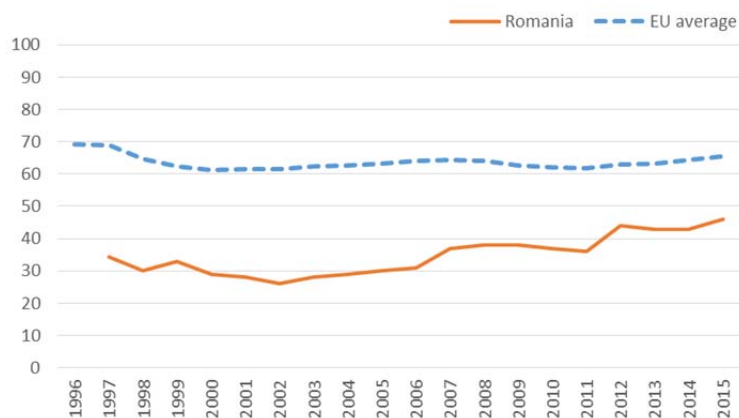
Source: Transparency International. Note: The scale ranges from 0 (highly corrupt) to 100 (highly clean).

The Worldwide Governance indicators developed by the World Bank also show that government was perceived as significantly less effective in Romania than elsewhere in the EU in 2014. Government is equally assessed as being of lower quality. Although the situation seems to have improved in this respect between 2010 and 2013, including in all the lagging regions, Romania was still ranked in penultimate position by the European Quality of Government index. In the North-East region the situation was worse than in the rest of the country (Figure 5.29).

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[61] See: Hunya, G. 2017, Romania: Economic deceleration follows the boom, in: wiiw Forecast Report Spring 2017: Cautious Upturn in CESEE: Haunted by the Spectre of Uncertainty

Figure 5.28 / Worldwide Governance indicators for Romania, 2008 and 2014
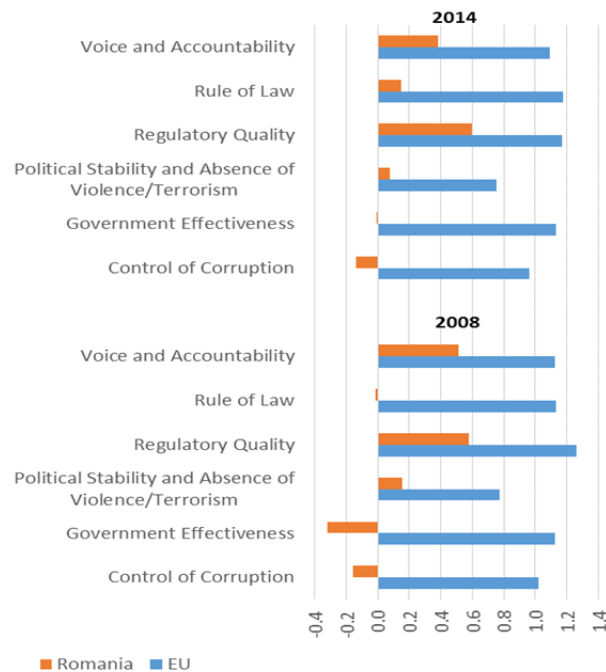
Note: The scale ranges from -2.5 to 2.5, higher values corresponding to better governance.
Source: Worldwide Governance Indicators, World Bank.

Figure 5.29 / Quality of government index for Romania and lagging regions, 2010 and 2013
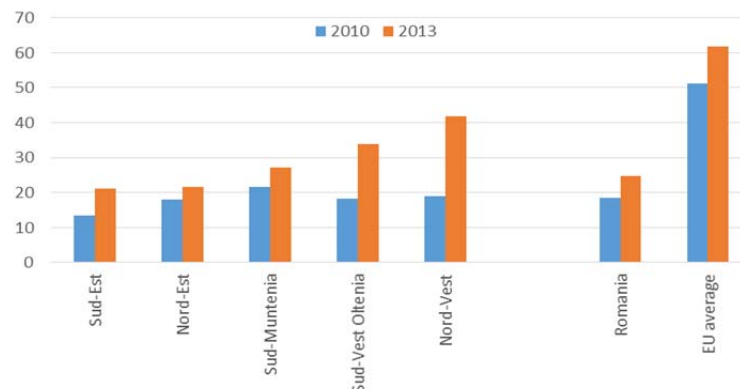
Source: N. Charron, L. Dijkstra and V. Lapuente, 'Mapping the Regional Divide in Europe: A Measure for Assessing Quality of Government in 206 European Regions'. The scale ranges from 1 to 100, higher values corresponding to a better quality of government.

As far as the business environment is concerned, governance problems, especially corruption and crime, are important factors constraining the birth of new firms. According to a World Bank survey, over twice as many enterprises than the EU-13 average considered corruption and crime as major constraints on business in Romania, while a third regarded practices of competitors in the informal sector in a

similar way[62]. While there are fewer companies in the North-East region that perceive corruption and crime as major constraints for doing business, there are still twice as many as in the EU-13.

Figure 5.30 / Corruption, crime and informality as problems for doing business in Romania, 2013
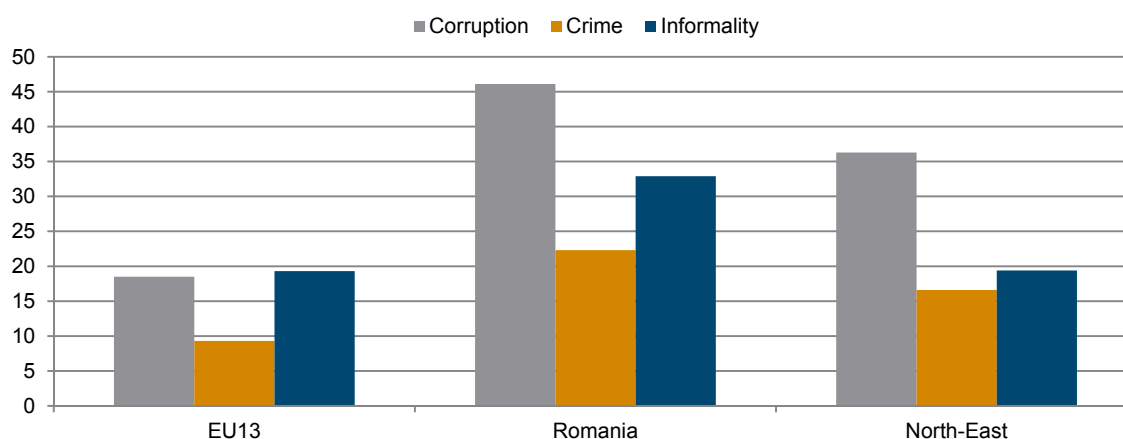
Note: EU-13 average is own estimation based on World Bank Group data.
Corruption: % of firms identifying corruption as a major constraint.
Crime: % of firms identifying crime, theft and disorder as a major constraint.
Informality: % of firms identifying practices of competitors in the informal sector as a major constraint.
Source: World Bank Group – Enterprise Surveys 2013 Romania.

Table 5.1 / Business environment indicators in Romania, 2016

	Romania (rank in the EU, 1-28)
Starting a business	14
Dealing with construction permits	25
Getting electricity	28
Registering properties	22
Obtaining credit	1
Protecting minority investors	19
Paying taxes*	15
Enforcing contracts	14
Resolving insolvency	21

Note: A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable. An indicator for 'trading across borders' is also included in the report, but since 16 out of the 28 EU Member States are ranked as 1, it is not included here. * Data for the paying taxes indicator cover the period January-December 2015.
Source: World Bank: Doing Business Report 2017.

In addition to these constraining factors, Romania, and correspondingly the North-East region, score low in a number of other business environment indicators. Thus, according to the World Bank, the situation in Romania is considered to be less favourable than in most other EU countries in 6 out of the 9 areas considered by the World Bank to assess the business environment (see Table 5.1). The situation is particularly unfavourable as regards 'getting electricity' and 'dealing with construction permits', for which

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[62]   World Bank Group – Enterprise Surveys 2013 and 2017 Romania; World Bank Doing Business.

Romania is assessed as being one of the most problematic countries in the EU. In the North-East region, problems of electricity supply (as well as in transport infrastructure) are considered as major constraints on business activity by a larger share of enterprises than in the country as a whole (and in the rest of the EU-13) according to the World Bank survey in 2013[63].

Correspondingly, the density of enterprises in the tradable sector in Romania and particularly in the North-East region is much lower than the EU average. It is overall lowest in the North-East region. The size of the tradable sector in terms of the share of employment is less than half of the national and EU averages, which is likely to constrain the development of the region.

Table 5.2 / Enterprise density and enterprise birth rate in the tradable sector (2011 and 2014)

Country	Enterprises per 1,000 popn.		Enterprise births per 1,000 popn	
	2011	2014	2011	2014
Romania	8.1	8.3	0.8	1.2
North East	4.9	5.2	0.5	0.8
EU		11.0		1.3

Source: Eurostat, Employer Business Demography statistics for the tradable goods and service sector.

The relative under-development of the tradable sector is a reflection of the very low birth rate of enterprises. Enterprise births in the sector per 1,000 inhabitants in the North-East region of Romania are amongst the lowest in the EU.

Figure 5.31 / Foreign direct investment in Romania and the CEE countries, 2015
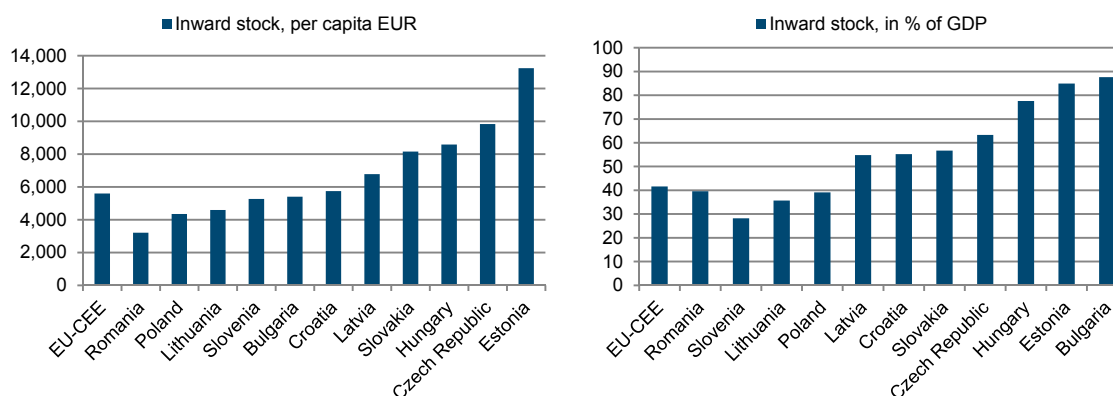
Source: wiiw (2016), *wiiw FDI Report, Central, East and Southeast Europe, 2016: Slump despite Global Upturn*.

As far as foreign direct investment is concerned, it is widely regarded as being one of the main drivers of structural change and technological upgrading in the countries of Central and Eastern Europe (CEE). However, the unfavourable business environment and governance situation as well as the relatively remote location of Romania may be important factors why Romania, in comparison to other CEE countries, has received relatively low FDI inflows over time. As Figure 5.31 illustrates, Romania, amongst all CEE countries, had the lowest FDI inward stock per capita (measured in euro) in 2015. The

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[63]   See: World Bank Group – Enterprise Surveys 2013.

picture is similar for the FDI stock in per cent of GDP; here Romania ranks fourth to last, although with an FDI stock amounting to 40% of GDP it is around the CEE average.

In addition to this, most FDI inflows to Romania are channelled to the capital city of Bucharest, which accounts for almost 60% of total Romanian inward FDI stocks (see Figure 5.32). By contrast, the North-East region received the lowest amount of FDI amongst all Romanian regions. Its share in total Romanian FDI is only around 2.5% in 2015.

Figure 5.32 / Share of regions in total country FDI stocks
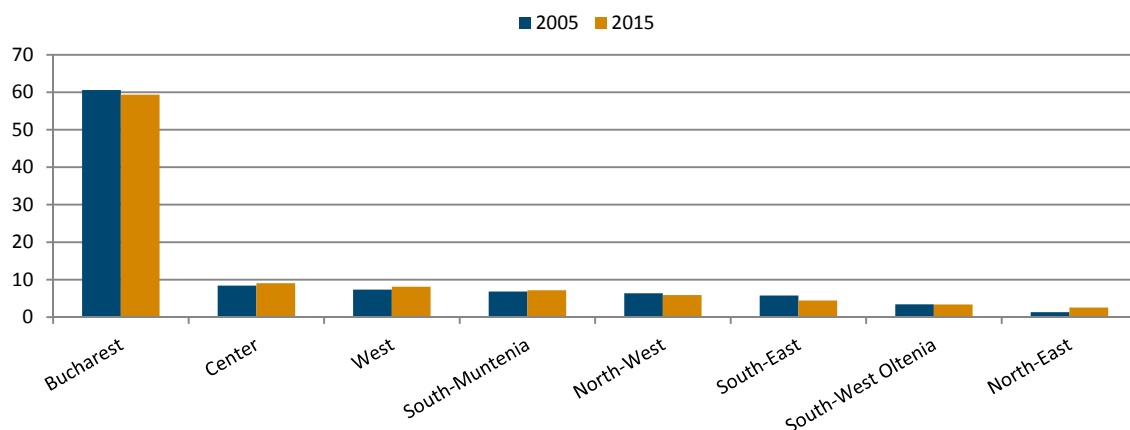
Source: National Bank of Romania.

Education

The early school leaving rate in Romania was relatively high in 2015, with 19% of those aged 18-24 leaving education without adequate qualifications in 2015 as against an average of 11% in the EU. Moreover, the rate has risen over recent years instead of declining as elsewhere in the EU. In the North-East region the relative number of young people leaving education with no qualifications beyond basic schooling was higher, at 25%.

At the same time, the proportion of working-age population with tertiary education was well below the EU average (17% for those aged 25-64 as against an EU average of 30%). Although the proportion is larger for younger age groups, indicating that there is an upward trend in participation in tertiary education, it was still much smaller than in other parts of the EU (29% for those aged 25-34 as opposed to an EU average of 40%). The proportion is smaller than the national average in the North-East region, where only 21-22% of young people aged 25-34 had tertiary education, close to half the EU average.

The proportion of working-age population participating in continuing education or training after leaving the initial education system was also considerably below the EU average. In 2015, just over 1% of those aged 25-64 participated in education or training, a small fraction of the EU average (11%). The difference, moreover, has widened rather than narrowed over recent years. This implies that workers have limited opportunity to learn new skills and adapt to changes in technology and methods of working, with adverse effects on the quality of the workforce and the attractiveness of the country as a location in

which to invest. In the North-East region the proportion participating in continuing education or training was even smaller than the national average, at less than 1%.

**Figure 5.33 / Early leavers (18-24) from education and training in Romania and lagging regions in 2008, 2012 and 2015**
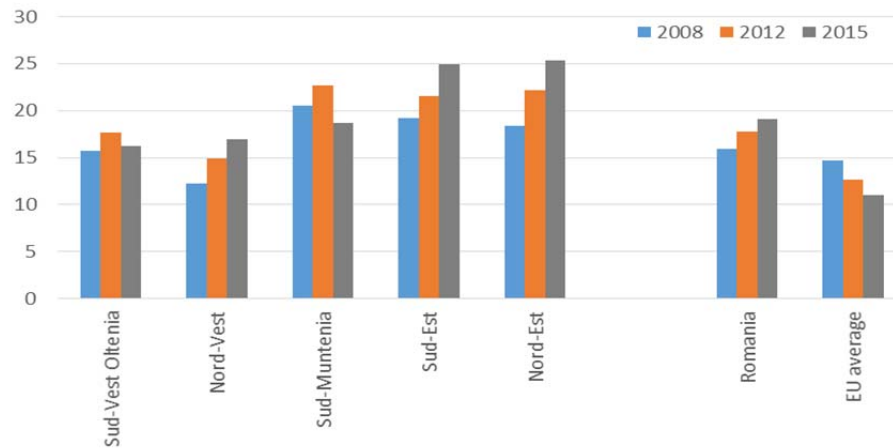
Source: Eurostat, LFS [edat_lfse_16].

Figure 5.34 / Proportion of people with ISCED 5-8 in Romania and lagging regions in 2008, 2011 and 2014
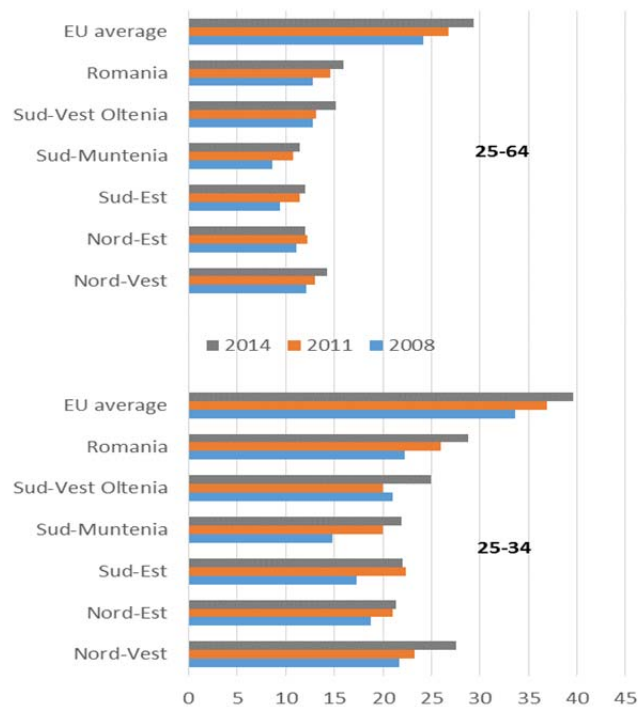
Source: Eurostat, LFS microdata.

Figure 5.35 / Participation rate of persons aged 25-64 in continuing education or training in Romania and lagging regions in 2008, 2012, and 2015
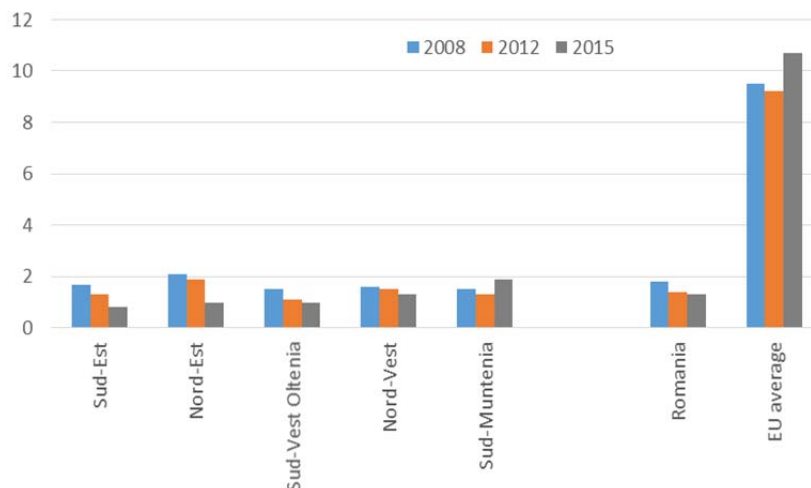
Source: Eurostat, LFS [trng_lfse_04].

Some action has been taken over recent years to modernise and improve the education system (including by implementing various measures to reduce early school leaving, and increasing the quality of and access to vocational education and training as well as apprenticeship), but there is little evidence as yet of this being reflected in a reduction in early school leaving and action to increase participation in lifelong learning remains to be taken.

5.4. SUMMARY AND CONCLUSIONS IN THE LIGHT OF CURRENT REGIONAL DEVELOPMENT STRATEGIES

Summarising the results of the analysis above, the situation of the Romanian North-East region can be described as follows:

› The North-East region is a peripheral, rural EU region with particularly low levels of income and productivity.

› It faces a triple convergence challenge: convergence to the EU, within Romania and within the region itself. While in the past the region caught up vis-à-vis the EU (although latest data show that EU convergence has halted), disparities within Romania and also within the region increased.

› The main factor for the low level of economic development is the production and firm structure, especially the big but unproductive agricultural sector and the relatively small and mostly low-technology-intensive tradable sector.

› Most of the framework conditions, i.e. accessibility, R&D and innovation, governance and business environment as well as education, are unfavourable to support a structural change or upgrading of existing production structures. By contrast, the macroeconomic environment appears to be more favourable in terms of supporting growth in the region.

The analysis suggests that, in order to strengthen the North-East region's economic development and to enable it to enter a long-run sustainable growth path, it is necessary to enlarge and upgrade the region's tradable sector. The analysis has shown that this sector is relatively small (compared to other Romanian regions) and mostly concentrated on the production of low value added goods (or services) like textiles and wood products. Furthermore, the existing medium-high- and high-tech industries are mostly concentrated in only one county of the region, i.e. Iasi, which, as a consequence, has a considerably higher level of GDP per capita and productivity than the other counties.

A strengthening and increase of the tradable sector would also contribute to resolving the precarious situation in the agricultural sector by providing jobs and incomes to at least part of the large amount of people employed in agriculture (i.e. 40% of total employed). Thus, the expansion of the tradable sector would indirectly also allow for productivity-increasing measures in the agricultural sector.

One tricky bit of improving the tradable sector is that it depends crucially on the quality of the framework conditions. Some of these conditions, like an adequate transport infrastructure or a reliable business environment and a high level of governance, could be considered necessary for the improvement of the tradable sector. Being in place, these conditions would increase the region's attractiveness for domestic and foreign investment, while at the same, especially in the case of a good business environment, facilitate investment and the birth of new or expansion of existing firms. By contrast, if these framework conditions are absent or of low quality, it is difficult to find good arguments for investing in the region, especially if it is as remote as the North-East region.

Other framework conditions, like education and skills or R&D and innovation, have a more complex relationship to improving the tradable sector. Not only are these conditions required to be in place to allow for an upgrading of the production structure, but also such an upgrading would lead to an improvement of the framework conditions, e.g. through an increased demand of high skills or higher R&D and innovation activities by newly created firms in higher-technology sectors. Hence, there exists a circular relationship between these conditions and the necessary changes in the production structure, also giving rise to the development of agglomeration externalities.

Ideally, therefore, any strategy devoted to the economic development of the North-East region should consider addressing the issue of upgrading and expanding the tradable sector as well as improving the necessary framework conditions simultaneously.

In this light, the North-East region's Regional Development Plan for the period 2014-2020[64] covers most of the issues raised here. Thus, over the next couple of years, the broad focus of the North-East region's development is on

› improving human capital;

› developing a modern infrastructure;

› developing a competitive economy and supporting local development;

› optimising the use of and protecting natural resources.

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[64]   See: North-East Regional Development Plan, 2014-2020
       http://www.adrnordest.ro/user/file/pdr/PDR%20NE%202014-2020%20-%20dec%202015.pdf

The overall budget available for this is around EUR 8.117 billion for the period 2014-2020, with around 62.5% (over EUR 5 bn) coming from EU Structural Funds, around 13% coming from each, the central as well as the local budgets (i.e. around EUR 1.1 bn each), and around 10% (i.e. EUR 0.8 bn) being contributed by private sources. In terms of GDP, the planned investments of the North-East regional development plan would amount to about 8.5% of GDP annually over the six years 2014-2020[65]. Overall, this budget is relatively evenly distributed over the four investment priorities.

In some more detail, these priorities cover, inter alia:

› regarding economic development:

- strengthening the existing clusters, especially those that have been created from 2010 to 2014 in the fields of: clothing and textiles, medical imaging, biotechnology, tourism, media & ICT, creative industries and construction;

- developing new clusters, e.g. for the food industry;

- creating technology transfer centres at universities, research institutions, chambers of commerce and industry, to ensure the exchange of knowledge and technology between business and the academic sphere;

- developing a grant scheme for the purchase of production lines, equipment and technologies, to facilitate product and process innovation;

› regarding R&D:

- rehabilitating, modernising and expanding R&D infrastructure;

- creating new research centres and laboratories;

- supporting the purchase of machinery, equipment and specialised tools needed for R&D;

› regarding transport infrastructure:

- modernising county roads to connect local centres (especially in the Eastern parts of the region) as well as border crossings (with Moldova and Ukraine) to the main transport routes;

- modernising national roads to increase the connectivity between the main urban centres of the region;

- building of ring-roads and by-passes, especially for congested urban areas;

- improving access roads to airports, tourist and main business areas;

› regarding rural areas:

- improving transport links between urban and rural areas;

- developing infrastructure associated with the development of agriculture, e.g. irrigation infrastructure, silos, etc.;

- extending power and gas supply;

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[65] Calculated under the assumption that total planned expenditures are equally distributed over the years and using the region's GDP 2015 as a basis.

- creating, modernising and expanding education, health and social infrastructure;

› regarding agriculture (with the goal to reduce the share of population employed in agriculture to 35% by 2022):

- supporting investment to start a business in various fields related to agriculture, such as the collection and processing of berries, medicinal plants, mushrooms; beekeeping, aquaculture, snail farms etc.;

- establishing regional centres for the collection and storage of agricultural products;

- supporting the establishment of food processing firms;

› regarding education:

- identification of the skills needed at the regional and local level, including a medium-term forecast;

- updating, implementing and monitoring the regional and local education plan;

- creating partnerships between employers, training providers, universities, NGOs in order to adjust educational programmes to labour and skill demand;

- promoting direct measures and incentives for qualification at work.

On paper, the North-East region's development plan comprehensively covers many of the aspects needed for the region's economic progress. Depending on how it is put into practice, it thus may constitute an important step to a longer-run sustainable growth path. However, as two important points are not addressed in the plan, i.e. business environment and governance (though to some extent they depend on national policies), this step might be smaller than it could be.

In any case, given the currently low level of economic development of the region and the significant disparities existing within the region, convergence to income levels comparable to those in similar regions of more advanced countries is a very long-run process. Potentially, this process could take several decades, thus requiring continuous efforts and support of economic development of the North-East region.

5.5. ANNEX

Combined Nomenclature, 2017

I Live animals; animal products

II Vegetable products

III Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes

IV Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes

V mineral products

VI Products of the chemical or allied industries

VII Plastics and articles thereof; rubber and articles thereof

VIII Raw hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)

IX Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork

X Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard; paper and paperboard and articles thereof

XI Textiles and textile articles

XII Footwear, headgear, umbrellas, sun umbrellas, walking sticks, seat-sticks, whips, riding-crops and parts thereof; prepared feathers and articles made therewith; artificial flowers; articles of human hair

XIII Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware

XIV Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin

XV Base metals and articles of base metal

XVI Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles

XVII Vehicles, aircraft, vessels and associated transport equipment

XVIII Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof

XIX Arms and ammunition; parts and accessories thereof

XX Miscellaneous manufactured articles

XXI Works of art, collectors' pieces and antiques

XXII Goods non-included in Combined Nomenclature other sections

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